Astounding SCIENCE FICTION

JUNE 1949
25 CENTS

THE APHRODITE PROJECT BY PHILIP LATHAM

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Special Offer!

SIX-MONTHS SUBSCRIPTION TO AIR TRAILS!

ONLY $1

Here's a money-saving opportunity to get the finest in aviation reading—the next six issues of Air Trails—for the very low introductory rate of only $1.

This special subscription rate is available for a limited time. You must act fast. Send the coupon with $1, today!

Air Trails brings you the latest air news, exciting pictures of new planes, inside information on aircraft design. In addition to plans for full-size aircraft, there is a complete section devoted to model airplane building and flying which is the finest in the world.

Keep abreast of all that's new and exciting in aviation. Read AIR TRAILS every month!

AIR TRAILS
P.O. BOX 494 · ELIZABETH, N.J.

Here's my ☐ check ☐ money order (indicate which one) for $1.00 for a special six-month trial subscription to Air Trails..

Name .....

Street .....

City Zone State.....

Additional Postage: Canada 25¢, Pan-American 15¢ Elsewhere out of U.S. 40¢

THIS SIX-MONTHS-FOR-ONE DOLLAR SUBSCRIPTION OFFER IS GOOD FOR A LIMITED TIME! SEND YOUR ORDER RIGHT NOW!

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Astounding
SCIENCE FICTION
Reg. U. S. Pat. Off.

CONTENTS

JUNE, 1949 VOL. XLIII, NO. 4

NOVELETTES

THE GREEN FOREST, *by A. E. van Vogt* 6
A SOUND INVESTMENT, *by René Lafayette* 36

SHORT STORIES

TO WATCH THE WATCHERS, *by W. Macfarlane* 28
ENTITY, *by Poul Anderson and John Gergen* 58
MINORITY REPORT, *by Theodore Sturgeon* 130

ARTICLE

THE APHRODITE PROJECT, *by Philip Latham* 73

SERIAL

NEEDLE, *by Hal Clement* 85
(Conclusion)

READERS' DEPARTMENTS

THE EDITOR'S PAGE 4
IN TIMES TO COME 27
THE ANALYTICAL LABORATORY 84
BRASS TACKS 149
REVIEWS 158

Editor
JOHN W. CAMPBELL, JR.
W2ZGU

Assistant Editor
C. TARRANT

COVER BY BONESTELL

Illustrations by Brush, Cartier and Orban

The editorial contents have not been published before, are protected by copyright and cannot be reprinted without publishers' permission. All stories in this magazine are fiction. No actual persons are designated by name or character. Any similarity is coincidental.

Monthly publication issued by Street & Smith Publications, Incorporated at 775 Lidgerwood Avenue, Elizabeth, New Jersey. Reentered as Second Class matter October 19, 1948 at the Post Office at Elizabeth, New Jersey, under Act of Congress of March 3, 1879. Copyright, 1949, in U. S. A. and Great Britain by Street & Smith Publications, Inc. Allen L. Grammer, Chairman of the Board; Gerald H. Smith, President; Henry W. Ralston, Vice-President and Secretary; Thomas H. Kaiser, Treasurer. Subscriptions to Countries in Pan American Union, $2.75 per year; $3.00 per year in Canada, elsewhere, $3.25 per year. All subscriptions should be addressed to P.O. Box 494, Elizabeth, N. J. We cannot accept responsibility for unsolicited manuscripts or artwork. Any material submitted must include return postage.

General and Executive offices at 122 East 42nd Street, New York 17, New York.

$2.50 per Year in U. S. A. Printed in [illegible]16 the U. S. A. 25c per Copy

NEXT ISSUE ON SALE JUNE 21, 1949

AST—1G

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

OPEN TO QUESTION

The biological sciences are particularly difficult subjects because of the extreme unreliability of the subject matter. An investigation into the reaction of a mouse fed on Substance A may be completely thrown off the beam because the mouse happens to be exceptionally timid, and suffering with an anxiety neurosis induced by the cat-odor clinging to a cat-loving laboratory assistant. The chemist can rely on the behavior of hydrogen—though only because he never works with less than a few hundred billion individuals—and the physicist works with his reliably neurotic U-235 atoms. (They blow up in violent hysteria at the approach of a neutron; with a few trillion U-235 atoms present you can rely on it.) But the biologist doesn't find it practical to work with a billion white mice, or a few trillion guinea pigs.

The biologist who is really in trouble, though, is the man studying genetics. Most of his clues as to how genes, chromosomes and the like operate is—like the psychologist's clues to mind function—found when something goes wrong. That doesn't happen often; in a population of thousands, a very few individuals will appear with an abnormality. Of the abnormals, a few will actually prove to be genetic abnormalities, not some accidental, nongenetic anomaly. By this time, the numbers have been reduced to a point where statistical study requires years of accumulation of careful data. It requires the use of some living thing which has a short life-cycle, a high reproduction rate, low up-keep cost, and small space-requirements. It requires, in other words, the geneticist's favorites—the *fruit fly and the molds.*

More recently, atomic physics has forced an acute interest in mutation, genetic changes, and such subjects, as applied to the higher mammals, not as related to fruit flies and molds. In the January issue, Astounding Science Fiction carried a discussion of a talk delivered by Dr. Robley Evans, a physicist at M.I.T., on that subject. We now find ourselves caught in a severe cross-fire, hasten to state our neutrality, and herewith report on the statements of the other side. Dr. H. J. Muller, Nobel prize winner for his work on mutations, informs us that the data on which Dr. Evans' summation was based is strongly disputed by many geneticists. Contrary to the statement that low levels of radiation cause no mutations whatever, Dr. Mul-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ler and many other geneticists feel that even very low levels of radiation are important. Also, I was introduced to a new and decidedly interesting concept.

Essentially, any biological science must be reduced to statistical effects; no one can predict how long you individually will live, but any life insurance company can predict how long you—the collective readership of this magazine—will live. The geneticist, similarly, is forced to think in racial, not individual terms. A mutation can result in a strongly dominant new characteristic, strong enough to be visible in the new generation. Most of the mutations are, however, recessive. (Many may be dominant and lethal; those we needn't worry about, because they kill the possessor.) Also, most mutations are harmful—the old story; there are ten thousand million ways of making a new human being wrong, and only a very few right ways. (We'll accept the heart on the left, for instance, as a right way.)

Since mutations are usually harmful, and usually recessive, they can, once generated and thereby introduced into the general human genetic pool, be spread through everwidening numbers. Being recessive they can, even though strongly lethal, continue to survive. As an example, a gene leading to practically zero immunity to diphtheria would, if a dominant, rapidly eliminate itself from the genetic pool of the human race. As a recessive, it can continue in existence for ages. Now, with our medical techniques which permit and aid the survival even of those displaying a high natural sensitivity to diphtheria, it has an even better chance to spread at a high level of effectiveness.

Dr. Muller sees no evidence that very low levels of radiation do not cause mutations. If that is the case, then even a series of diagnostic X-ray pictures may introduce a small number of mutational effects. If the whole human race is X-rayed—*vide* mass X-ray examination for TB and the like—no *one* gets appreciable dosage, but the *human race* does get appreciable radiation.

This whole subject of mutation and genetics is complex, immensely important, and, to my accute regret, simply is not available to anyone but the most highly trained specialists in the field. *No* satisfactory account of the work done, written at a level intelligible to the intelligent, technically minded adult, not a specialist in genetics, has been written by any of the men active in the field. It's a project that some one of the experts should tackle. Knowledge held esoterically in the relatively narrow coterie of the initiate is of very little value to mankind as a whole. It may be that Dr. Evans was misled; he is a physicist, a highly trained and expert man—and he was doing a job that badly needed doing. Since the expert geneticists who should have done it had failed to, and since a compilation of the knowledge was so badly needed, Dr. Evans made one. I, certainly, am in no position to judge aye or nay on the accuracy. But if his sources aren't those an expert geneticist would have chosen for his compilation—

Will an expert geneticist then please step forward and do the very important job of putting the present status of genetics research in terms an intelligent; technically-minded nongeneticist can handle?

The Editor.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE GREEN FOREST

BY A. E. VAN VOGT

The true value of those strange beasts of the Green Forest of the Mira world was something Mankind couldn't reveal—even to the hunters who must capture them!

Illustrated by Brush

"Here!" said Marenson.

He put the point of his pencil down in the center of a splotch of green. His eyes focused on the wiry man opposite him.

"Right here, Mr. Clugy," he said, "is where the camp will be built."

Clugy leaned forward and glanced at the spot. Then he looked up; and Marenson was aware of the spaceman's slate-gray eyes studying him. Clugy drew slowly back into his chair, and said in a monotone:

"Why that particular spot?"

"Oh," said Marenson, "I have a feeling we'll get more juice from there."

"A *feeling!*" The words came explosively. Clugy swallowed hard, and said quietly: "Mr. Marenson, that's dangerous jungle country." He stood up, and bent over the map of the Mira sun planet. "Now, here," he said briskly, "in this mountain country it's bad enough, but the animal and plant life can be fought off, and the climate is bearable."

Marenson shook his head, and put his pencil back to the green splotch. "Here," he said with finality.

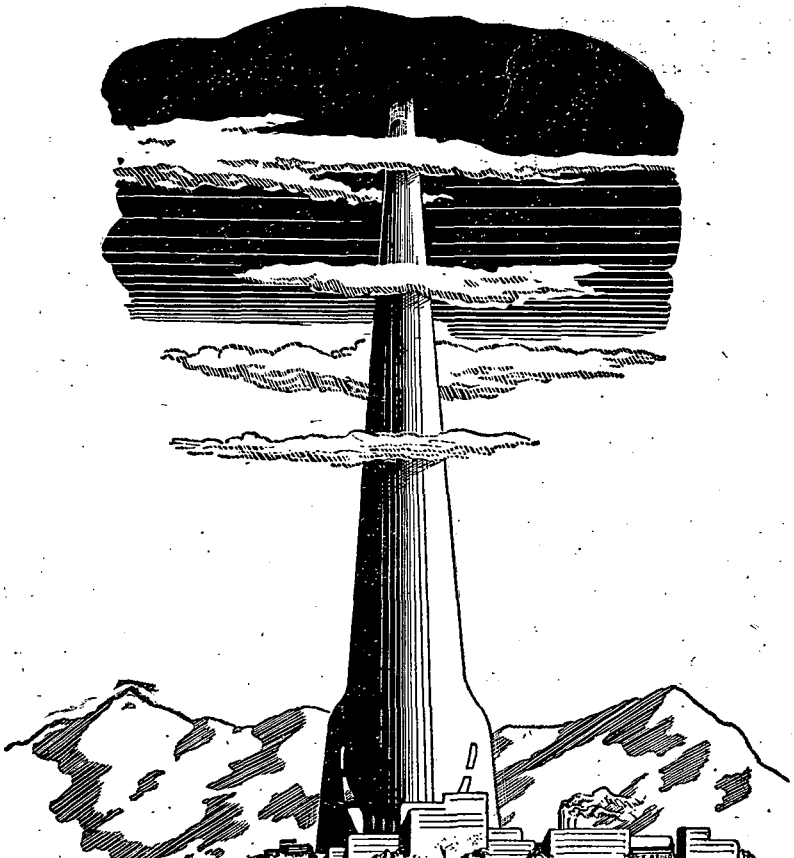
Clugy went back to his chair and sat down. He was a lean man with the tan of many suns on his face. Marenson was aware of the spaceman's hard eyes studying him. The other seemed to be tensing himself for a violent verbal battle. Abruptly, he must have decided against a head-on clash with his superior.

"But why?" he said in a perplexed tone. "After all, the problem is very simple. A big ship is being built, and we need the organic juice from the progeny of these Mira beasts."

"Exactly," said Marenson, "so we locate our camp in the forest which is their main habitat."

"Why not," Clugy persisted, "leave the job of selecting the camp site to the field men—the hunters?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



Marenson put his pencil down deliberately. He was accustomed to dealing with people who opposed his plans. He thought of himself as a calm man whose patience was exhausted.

There were times when he gave detailed reasons for his actions, and there were times when he didn't. This was one of the times when he didn't; under the rulings, actually, he couldn't. A glance at the wall clock showed that it was ten to four. Tomorrow at this hour he would be clearing his desk preliminary to leaving on a month's vacation with Janet. Between now and then he had a score of vital things to do. It was time to break off the interview. He said in a formal voice:

"I take full responsibility for my decision. And now, Mr. Clugy—"

He stopped, conscious that he had said the wrong thing. It was not

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

often that there were scenes in this sumptuous office with its hundred-story view of the capital of the galaxy. Usually the deep space men who came in here were properly impressed by Ancil Marenson and his resonant baritone voice. But he took one look now at Clugy's face, and realized he had handled the other in a wrong fashion.

Clugy hunched himself forward angrily. And it was the stupendousness of the emotional jump he made then that startled Marenson—from mildness, without any gradations, to unqualified anger.

"Easy talk," he said now in a harsh, steely voice, "from a man in the penguin division of the service."

Marenson blinked. He parted his lips to speak, then closed them tight. He started to smile, but changed his mind. He had such a long space career behind him that he had never thought of himself as being in the armchair brigade. He cleared his throat.

"Mr. Clugy," he said mildly, "I'm surprised that you introduce personalities into this purely governmental affair."

Clugy's stare was unflinching. "Mr. Marenson," he said with chilling politeness, "a man who sends others into dangerous situations on a mere whim has already introduced the personal element. You're making a life-and-death decision involving several thousand brave men. What you don't seem to understand is that the Mira planet forest is a green hell. There's nothing else like it in the universe we know—unless the Yevd have something similar in their section of the galaxy. The year round it swarms with the progeny of the lymph beast. What puzzles me is why don't I get up and punch you one right in that handsome face of yours?"

It was the reference to the Yevd that gave Marenson the opening he'd been looking for. "If you don't mind," he said coldly, "I'm going to have you tested for light illusion. I'm having endless trouble on all our supply lines from Yevd interference. There's something funny about a man who's fighting as hard as you are to prevent lymph juice from being delivered to the navy."

Clugy smiled, showing his teeth. "That's right," he said. "Attack is the best defense, isn't it? So now I'm a Yevd using my mastery of light and illusion to make you believe I'm a human being."

He stood up. Before he could continue, Marenson said in a savage voice: "It's a good thing that there are men like me in the background. Field people have a tendency to slack on the job, and take all the easy ways. My job is to deliver lymph juice to The Yards. Deliver it, understand. No excuses. No explaining that the hunters find it more convenient to commute from the mountains. I have to get the juice to the factories, or resign in favor of someone who can. Mr. Clugy, I make a hundred thousand

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

a year because I know what decisions to make.

Clugy said: "We'll get the juice."

"You haven't been."

"We're just starting." He leaned over the desk. His gray eyes were steely. "My penguin friend," he said softly, "you've got yourself into a little neurotic corner, fancying the hard decision is always the right one. Well, I don't give a care about your job conditioning. I'm telling you this: When the order comes to me, it had better read, 'Mountain camp', or you'll know the reason why."

"Then I'll know the reason why."

"Is that final?"

"That's final."

Without a word, Clugy turned and headed for the door. It closed behind him with a crash.

Marenson hesitated, then called his wife. She came on the visiplate in her jaunty fashion, a slim, healthy young woman of thirty-five. She smiled when she saw who it was. Marenson explained what had happened, finished:

"So you see I've got to stay down here and figure out ways and means to prevent him from getting back at me. I'll be late, I expect."

"All right. 'Bye."

Marenson worked fast. In the early, friendly part of his conversation with Clugy he had mentioned his vacation. Now, he called Government Messenger Service, and sent the spaceship tickets for the trip to the Paradise Planet offices for validation. While he waited for the messenger to return, he checked on Clugy.

The man was registered with his son in a suite at the Spacemen's Club. Son? Marenson's eyes narrowed. If Clugy got rough, the boy might be the best method of striking back at him.

During the next hour, he discovered that Clugy had important "connections" in high government circles that he had killed four men, *juris ultima thule*—beyond the law of the uttermost limit—and that he was known as a man who liked to do a job his own way.

The tickets were returned as he reached that point. He grinned down at the union stamp of "validation" on them. If the spacemen's organization repudiated that, they would be open to a court suit for triple damages.

Round one, accordingly, was his.

His grin faded. It was a minor victory against a man who had killed four times.

"The important thing," Marenson decided, "is to stay out of trouble until Janet and I are aboard the Paradise liner tomorrow. That will give me a month."

He realized he was perspiring. He shook his head sadly. "I'm not the man I used to be." He looked down at his long, strong body. "I'm getting soft. I couldn't take a really bad beating up, even with hypnotic anaesthesia." He felt better for the admission. "Now, I'm getting down to realities."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The phone rang, Marenson jumped, then answered it. The man whose face came on the video said: "Mr. Clugy is just leaving the Spacemen's Club. He was in his room for about fifteen minutes."

"Do you know where he's going?"

"He is now entering a taxigyro. There goes his destination up on the meter. Just a moment, I can hardly see it . . . Y—A . . . I got it. The Yards."

Marenson nodded gloomily. Clugy returning to The Yard could, of course, mean many things. They were long and had many points of interest.

"Shall we beat him up, sir?"

Marenson hesitated. Ten years ago he would have said yes. Beat your opponent to the punch. That was the first principle of war between two spacemen. But he wasn't a spaceman any more. He couldn't define it, but it had something to do with prestige. If he was hurt, it was news. In that sense Clugy had an advantage over him. Because if he was caught doing anything against the man, the powerful spacemen's union would ruin him. Whereas if Clugy took action against him, his union would probably defend him on the grounds that he was acting for the best interests of his men.

Marenson's hesitation ended. "Follow him," he ordered, "and report to me."

He recognized the action of a half measure. But, then, a man couldn't risk his career on the basis of one incident. He closed his desk, and headed for home.

He found Janet still packing. She listened to his account of what he had done, a faraway expression in her eyes, and finally said: "You surely don't expect to win that way."

There was a tone in her voice that stung. Marenson defended himself, finishing: "So you see, I just can't take the risks I used to take."

"It's not a matter or risks," she said. "It's a matter of thoroughness." She frowned. "My father used to say that no man today could afford to let down his standards."

Marenson was silent. Her father had been a fleet admiral in his day, and she regarded him as a final authority in most matters. On this occasion he was half inclined to agree with her, and yet there was another factor.

"The important thing," he said, "is that we get away tomorrow evening on the Paradise liner. If I do anything directly against Clugy, I might have an injunction slapped on me, or a union official may order me to appear before an investigating committee—the whole setup is dangerous."

"Is that really the best way to get lymph juice—the way you ordered it?"

Marenson nodded vigorously. "Yes, it is. The records go back just over three hundred years. There have been five major periods

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

of big ship building during that time. And on each occasion the men who actually had to do the hunting have kicked up a row. Every method was tried, and the statistics show the method of living in the forest to be a full seventy-five percent more effective than any other system."

"Did you tell that to Clugy?"

"No." Marenson shook his head grimly.

"Why not?"

"Two generations ago, a union lawyer got a smart decision rendered against the government. The Supreme Court ruled that new techniques of hunting *could* nullify all past experience. No basically new methods of hunting had or have been developed, you understand. But, having made that statement, they then went on to draw their conclusion as if the new methods actually existed. They held that, since new techniques could nullify past experience, therefore to mention the past was to engage in unfair tactics. The government, they said, meaning the navy, was the stronger party in the dispute, and there was always danger accordingly that the interests of the men would be ignored. Therefore, the past cannot be considered. Therefore, mention of the past must be regarded as an unfair tactic. Such a tactic would automatically mean that the navy would lose the dispute."

Marenson smiled. "Clugy was probably waiting to pounce on me if I used that argument. Of course I may be doing him an injustice. He may not know about the ruling."

"Are these lymph beasts really dangerous?"

He said solemnly: "The progeny are in their own special fashion probably the deadliest creatures ever developed by Nature."

"What are they like?"

Marenson told her. When he had finished, Janet frowned and said: "But why are they so important? Why do we need them?"

Marenson grinned at her. "If I told you that," he said, "the next time I was tested for loyalty I would not only automatically lose my job but at the very least I would be imprisoned for the rest of my life. I might be executed for treason. No, thank you, Mrs. Marenson."

There was silence for a while; and Marenson discovered that his words had chilled him just a little. He had an empty feeling in the pit of his stomach. It was so easy, working in an office, to concentrate on the details of a job, and forget the deadlier reasons for that job.

More than two hundred years before, the Yevd had come from the region of the dark obscuring matter in the center of the galaxy. Their ability to control light with the cells of their bodies was not suspected until one day a "man" was blasted while rifling the safe of the Research Council. As the human image dissolved into a rectangular cubelike shape with numerous reticulated

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

legs and arms, human beings had their first inkling of the fantastic danger that threatened.

The fleet was mobilized, armed helicars flew along every street, using radar to silhouette the true shapes of the Yevd. It was afterwards discovered that by a more difficult control of energy, the Yevd could guard themselves against radar. But apparently in their contempt of man's defense systems, they had not bothered to do so. On Earth and on other systems inhabited by men, altogether thirty-seven million of the enemy were killed.

Thereafter, human and Yevd ships fought each other on sight. The intensity of the war waxed and waned, but a few years before, the Yevd had occupied a planetary system near to the solar system. When they refused to leave, the United Governments started the construction of the biggest ship ever planned. Already, though it was only half finished, the great machine towered into the lower heavens.

The Yevd were a carbon-hydrogen-oxygen-fluorine life form, tough of skin and muscle, and almost immune to chemicals and bacteria that affected men. The great compelling problem for man had been to find an organism in his own part of the galaxy that would enable him to experiment for bacteriological warfare.

The progeny of the lymph beast was that organism. *And more!* The lymph juice, when chemically separated, yielded a high percentage of heavy water.

It was believed that if the Yevd ever discovered how tremendously man was depending on the lymph beasts, they would launch a suicidal attack on the entire Mira system. There were other sources of heavy water, but no other fluorine-metabolism creature that could be used against the Yevd had yet been discovered.

The heavy water was the surface secret. It was hoped that *that* was what the Yevd would uncover if they ever began to study the problem.

Janet broke the silence with a sigh. "Life has certainly become complicated." She made no further comment. As soon as dinner was over, she retired to her bedroom to finish her packing. When Marenson glanced in later, her light was out and she was in bed. He closed the door softly.

At ten o'clock there was still no call from Detective Jerred. Marenson went to bed, and he must have slept, because he woke with a start to the sound of his visiphone buzzing. A glance at the night clock showed that it was a few minutes after midnight, and a glance at the plate, when he had turned it on, that it was the detective calling him at last.

"I'm back at the club," said Jerred. "Here's what's been happening."

On his arrival at The Yards,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Clugy had gone directly to union headquarters, and a union court sat immediately on his appeal for a reversal of the decision. His petition was refused within three hours, on the grounds that the problem involved was supervisory, and did not concern the union.

Apparently, Clugy accepted the decision. For he did not request a full dress trial, which would have required the presence of Marenson as a witness. Instead, he returned to his club where he and his son had dinner in their room. Clugy went to a show by himself, and returned about half an hour ago. He was scheduled to have breakfast at the club, and then at eleven board the freighter that would drop him off at Mira 92 a few days later.

Jerred ended: "Looks as if he made the appeal to satisfy any protests the men might make, then let it go."

Marenson could see how that might be. He had run up against opposition before, and for the most part it was a simple matter of legal procedure. This seemed now to be in the same category.

Clugy would have to act fast if he hoped to change the camp order before his ship departed for Mira.

Marenson said: "Keep somebody watching him till he leaves."

He slept well, and he must have relaxed his vigilance. As he headed for his gyro on the roof after breakfast, he was only vaguely aware of the two men who came toward him.

"Mr. Marenson?" one asked.

Marenson looked up. They were well-dressed, young, strong looking. "Why, yes," he said, "What—"

A gas gun exploded in his face.

Marenson woke up mad. He could feel that fury tensing his body as he came slowly up out of the darkness. And just as he was about to become fully conscious, he recognized the anger for what it was. The anger of fear.

He stayed where he was, eyes closed, body very still, forcing his breath into the slow, deep pattern of a sleeper. He was lying on something that felt like a canvas cot. It sagged in the middle, but it was reasonably comfortable.

A faint breeze blew against his cheek, and it brought a thick rancid odor to his nostrils. Jungle, he thought. Rotting vegetation intermingled with the tangy scent of innumerable growing things. The mustiness of the damp earth and something else—an acridness in the air itself, an alien atmosphere that registered on human nostrils with an almost sulphurous sharpness.

He was in a jungle on a planet that was not Earth.

He remembered the two young men who had come out of the stairway entrance as he walked toward his gyro. Marenson groaned inwardly. *Gassed, by heaven,* he thought. *Caught by a simple trick like that. But why? Was it personal—or Yved?*

Involuntarily, at that final possi-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

bility, Marenson cringed. The anger faded out of him completely, and only a cold fear remained. He lay then for a while simulating deep sleep. But slowly his spirit revived, and his mind began to work again. His thoughts became analytical. He remembered Clugy, but realized he couldn't be sure. As head of the procurement division for the Ship, he had in his time offended many bold and dangerous individuals.

That was one aspect, one possibility.

The other one was that the Yevd enemy of man was using him in one of their intricate games to slow down the construction of the Ship. If the Yevd were responsible, it would be complicated. The masters of light had devious minds, and took it for granted that any simple scheme would be quickly suspected.

Marenson began to breathe more easily. He was still alive, his hands were not tied; and the biggest question was: What would happen when he opened his eyes?

He opened them.

He was staring up through dense foliage at a reddish glowing sky. The sky looked hot, and that gave him a sudden awareness that he was perspiring furiously. And, oddly, now that he knew about it, the heat almost smothered him. He shrank from the flamelike intensity, then slowly climbed to his feet.

It was as if he had given a signal. From his right, beyond a line of bushes, he heard the sounds of a large camp suddenly coming to life.

For the first time, Marenson noticed that he was dressed in a light mesh suit that incased him from head to foot. The material was transparent, and even covered his boots. The clothing shocked him. For it was the kind of hunting outfit used on primitive planets that swarmed with hostile life of every description.

Which planet, and why? He began to think now with more conviction that his predicament was Clugy's doing, and that this was the famous Mira world where the lymph beast lived.

He started off in the direction of the sounds.

The line of brush that had barred his view was, he discovered, about twenty feet thick, and the moment he was through it, he saw that it was not on the outskirts of the camp, but near the center. And now he noticed that the reddish sky was something of an illusion. It was part of a barrier that had been electronically raised around the camp. An energy screen. The red effect was merely the screen's method of reacting to the light of the particular sun that was shining down upon it.

Marenson began to breathe easier. All around were men and machines —men by the hundreds. Even the most cunning group of Yevd wouldn't try to create so massive an illusion. And, besides, their great skill in the use of light was personal

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

to each individual, and not a mass phenomenon.

A clearing was being created out of a tangle of growth. There was so much movement it was hard to know what any individual was doing. Marenson's eye for such things was ten years out of practice, but in a few moments he had oriented himself. The plastic huts were going up to his left. Those at the right were merely waiting their turn to be moved into place. Clugy's office would be in the permanent part of the encampment.

Grimly, Marenson started towards the hut village. Twice, "digger" machines harumphed past him sowing their insect poison, and he had to step gingerly over the loose earth; in its early stages the poison was as unfriendly to human beings as to anything else. The upturned soil glittered with long, black, shiny worms writhing feebly, with the famous red Mira bugs that shocked their victims with electric currents, and with other *things* that he did not recognize.

He reached the huts, walked on, and came presently to a sign which read:

Production-Superintendent

Ira Clugy

A youth of fifteen or sixteen lolled in an easy-chair behind the counter inside. He looked up with the lazy, insolent eyes of a clerk whose boss is absent. Then he turned his back.

Marenson went through the gate, and reached for the scruff of the kid's neck. There must have been a preliminary warning, for the neck twisted away, and like a cat the boy was on his feet. He came around with a snarl on his face.

Baffled and furious, Marenson retreated into words. "Where's Clugy?"

"I'll have you broken for this!" the boy snapped. "My father—"

Marenson cut him off. "Look, Mr. Big Shot, I'm Marenson from Administration. I'm not the kind that's broken. I break. You'd better start talking, and fast. Is Clugy your father?"

The boy stood stiff, then nodded.

"Where is he?"

"Out in the jungle."

"How long will he be gone?"

The boy hesitated. "Probably be in for lunch—sir."

"I see." Marenson pondered the information. He was surprised that Clugy had chosen to absent himself, and so leave Ancil Marenson temporarily in full control of the camp. But from his own point of view that was all to the good. Even as he made his plans, his mind reached to another thought. He asked: "When's the next ship due?"

"In twenty days."

Marenson nodded. It seemed to him that he was beginning to understand. Clugy had known he was due to leave on his vacation, and so

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

he had decided to inconvenience him. Instead of pleasure on Paradise Planet, he'd spend his vacation on primitive and dangerous Mira 92. Having no other method of countering his order, Clugy was repaying him with personal discomfort.

Marenson's lips tightened. Then he said: "What's your name?"

"Peter."

"Well, Peter," said Marenson grimly, "I've got some work for you to do. So let's get busy."

For a while, then, it was a case of "Where's that, Peter?" And, "Peter, how about the stamp for this kind of document?" Altogether, in one hour he wrote out five orders. He assigned himself a Model A hut. He authorized himself to make visiradio calls to Earth. He

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

assigned himself to Clugy's food unit. And he requisitioned two blasters, the use of a helicar and a pilot to operate it.

While Peter raced around delivering four of the orders to the proper departments, Marenson wrote out a news item for the editor of the camp newspaper. When that also was delivered, and Peter was back, Marenson felt better. What could be done on the scene was done. And since he'd have to remain for twenty days, the men in the camp might as well believe he was here on an inspection tour. The newspaper account would see to that.

Frowning, but partially satisfied, he started for the radio hut. His requisition was not questioned. He sat down and waited while the long and involved connection was put through.

Outside, men and machines were forcing a malignant stretch of jungle to be temporarily friendly to the hothouse needs of human flesh. Inside, surrounded by embanked instrument boards, Marenson pondered his next move. He had no evidence. His presence here against his will was not transparently the fault of Clugy. He had a lot of obscure back trails to investigate.

"Here's your connection," said the radio man at last. "Booth Three."

"Thank you."

Marenson talked first to his lawyer. "I want a court order," he said after he had described his situation, "authorizing the camp magistrate to question Clugy by means of a lie detector, and authorizing complete amnesia afterwards. That's for my protection during the rest of the time I'll have to spend in the camp with him. Can do?"

"Can," said the lawyer, "by tomorrow."

Next, Marenson connected with Jerred, head of his protective staff. The detective's face lighted as he saw who it was. "Man," he demanded, "where have you been?"

He listened soberly to Marenson's account, then nodded. "The outrage has one favorable aspect," he said, "it puts us into a better legal position. Perhaps now we can find out who the woman was that called Clugy's room at eleven o'clock the night before you were kidnaped. Apparently, his son answered, and must have communicated the message to him.

"Woman?" said Marenson.

Jerred shrugged. "I don't know who it was. My agent didn't report to me till the following morning. He had no opportunity to listen in."

Marenson nodded, and said: "Try to see if there were any eyewitnesses to my kidnaping, then we'll get a court order and find out from Clugy and his son who the woman was."

"You can count on us to do everything possible," said the detective heartily.

"I expect results," said Marenson, and broke the connection.

His next call was to his apartment. The visiplate did not brighten, and after the proper length of time, a recorder sighed at him:

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Mr. and Mrs. Marenson have gone to Paradise Planet until August 26th. Do you wish to leave a message?"

Marenson hung up, shaken, and went quietly out of the hut.

The fear that had come faded before his determination not to be alarmed. There must be a rational explanation for Janet's departure. He couldn't quite see how the Yevd could be involved.

He was annoyed that his mind had leaped instantly to that possibility.

A minute later, wearily, he unlocked the door of the hut. Inside, he removed his boots and sprawled on the bed. But he was too restless to relax. After less than five minutes, he got up with the intention of going to Clugy's office, and waiting there for the man to return. He had a lot of hard things to say to Ira Clugy.

Outside, he stopped short. Climbing up to his hut, he hadn't realized what a vantage point he had. The hill reared up a hundred feet above the jungle and the main part of the camp. It gave him an unsurpassed view of a green splendor, of the endless, shining forest. Clugy had chosen his camp site well. Lacking the higher mountains hundreds of miles to the south, he had nevertheless found in the hilly jungle country a sizable semimountain that sloped gradually up until it was about eight hundred feet above the main jungle. The hill where Marenson stood was the final peak of the long, jungle-robed slope.

Marenson saw the glint of rivers, the sparkling color of strange trees; and, as he looked, something of his old feeling for this universe of planets beyond Earth stirred within him. He glanced up at the famous and wonderful Mira sun, and the thrill that came ended only when he thought of his situation and his purpose. Grimly, he started down the hill.

Both Clugy and his son were in the office when Marenson entered it a few minutes later. The spaceman stood up. He seemed curious rather than friendly. "Peter was telling me about you being here," he said. "So you thought you'd come and look the territory over personally, eh?"

Marenson ignored the comment. Coldly, he made his accusation. He finished, "You may think you're going to get away with this trick, but I assure you that you aren't."

Clugy gazed at him in astonishment. "What's all this nonsense?" the spaceman demanded.

"Do you deny you had me kidnaped?"

"Why, certainly, I deny it." Clugy was indignant. "I wouldn't pull a fool stunt like that in these days of authorized lie detector tests. Besides, I don't work that way."

He sounded so sincere that for a moment Marenson was taken aback. He recovered swiftly. "If you're so positive," he said, "how about coming down right now to the camp

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

magistrate's office, and taking an immediate test."

Clugy frowned at him. He seemed puzzled. "I'll do just that," he said. He spoke quietly. "And you'd better be prepared to take such a test yourself. There's something funny about this whole business."

"Come along!" Marenson said.

Clugy paused at the door. "Peter, keep an eye on the office till I get back."

"Sure, Pop."

The man's swift acceptance of the challenge was in itself convincing, Marenson thought as he walked along at Clugy's side. It seemed to prove that he actually had accepted the ruling of his union. His part in this affair must have ended the very night of their argument.

But then, who had seized on the situation? Who was trying to take advantage of the quarrel? Yevd? There was no indication of it. But then who?

The two tests required slightly less than an hour and a half. And Clugy was telling the truth. And Marenson was telling the truth. Convinced, the two men gazed at each other in baffled amazement. It was Marenson who broke the silence.

"What about the woman who called up your son the night before you left Earth?"

"What woman?"

Marenson groaned. "You mean to tell me you don't know anything about that either?" He broke off with a frown. "Just a minute," he said, "how come Peter didn't tell you?"

His mind leaped to a fantastic possibility. He said in a hushed voice: "I think we'd better surround your hut."

But the superintendent's office, when they finally closed in on it, was empty. Nor was Peter discoverable at any of his usual haunts.

"Obviously," said Clugy, his face the color of lead, "when he heard me agree to a lie detector test, he realized the game was up."

"We've got to trace this whole thing back," Marenson said slowly. "Somewhere along the line a Yevd was substituted for your son. He came with you to Solar City, and took no chances on being caught by one of the several traps we have around The Yards to catch Yevd spies. I mean by that, he stayed in his room, and apparently communicated with other Yevd agents by visiradio. That woman who called the Yevd who was impersonating your son was probably another Yevd, and there's still another one of them impersonating me—"

He stopped. Because that other one was with Janet. Marenson started hastily for the radio hut. "I've got to contact Earth," he called over his shoulder to Clugy.

The radio hut was a shambles. On the floor, with his head blown off, was a man—Marenson couldn't be sure it was the operator. There

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

was blood splattered on dozens of instruments, and the whole intricate machinery of an interstellar radio system had been burned by innumerable crisscrosses of energy from a powerful blaster.

Marenson did not linger in the radio hut. Back in Clugy's office, he paused only long enough to find out from that distracted man that the nearest radio station was in a settlement some nine hundred miles to the south.

"It's all right," he said to Clugy's offer of a requisition for a helicar and pilot. "I signed one myself this morning."

A few minutes later he was in the air.

The speed of the machine gradually soothed Marenson. The tenseness went out of his muscles, and his mind began to work smoothly again. He stared out over the green world of the jungle, and thought: *The purpose of the Yevd is to slow down procurement of lymph juice. That's the important thing to remember.* They must have struck first at the source of the juice, and did an easy imitation of a boy. That was their usual tactic of interference at the production level. Then a new factor came into the situation. They discovered that Ancil Marenson, head of the procurement department, could be fitted into an enlarged version of their sabotage plan. Accordingly, two Yevd who looked like human beings gassed him and put him aboard the Mira freighter.

At the same time, a Yevd image of Marenson must have continued on to the office, and later that day the duplicate and Janet had probably departed together for Paradise Planet.

But why did they let me live? Marenson wondered. *Why not get me completely out of the way?*

There was only one reasonable explanation. They wanted to make further use of him. First of all, he must establish his presence, and his authority, and then—and not till then—he would be killed. And another Marenson image would order Clugy to transfer his camp to the distant mountain. In that fashion they would convince the willing Clugy that Marenson, having come to see for himself, had recognized the justice of Clugy's arguments.

Marenson felt himself change color—because that stage *had* arrived. All they needed from him was his signature on the order to Clugy. And even that could possibly be dispensed with, if they had managed to obtain some copy of his signature in the time available to them. But how would the attempt on him be made?

Uneasily, Marenson gazed out of the small helicar. He felt unprotected. He had been hasty in leaving the camp. In his anxiety to secure the safety of Janet he had exposed himself in a small ship which could be destroyed all too easily. *I'd better go back,* he decided.

He called to the pilot, "Turn back!"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Back?" said the man. He sounded surprised.

Marenson waved and pointed. The man seemed to hesitate, and then—he turned the machine upside down. With a crash, Marenson was flung to the ceiling of the craft. As he scrambled and fought for balance, the machine was spun once again. This time he had hold of a crossbar, and he came down more easily. He struggled to pull out a blaster.

The helicar was plummeting down towards the jungle now, and the pilot was jerking it violently to and fro. Marenson guessed his purpose and his identity, and felt ill. What a fool he had been to rush so blindly into this trap. The Yevd, knowing that he would try to send a radio message, must have killed the regular pilot—and simply waited for that simpleton Ancil Marenson to do what it expected him to do.

Marenson had a glimpse of trees terribly near. And realized the enemy's plan. A crash landing. The weak human being would be knocked unconscious, or killed. The Yevd, a carbon-hydrogen-oxygen-fluorine life form, would survive.

The next moment, there was a thump that shook his bones. During the seconds that followed, he seemed to be continuously conscious. He was even aware that the branches of strong trees had broken the fall of the ship, and so possibly saved his life. More vaguely, he knew when his blasters were taken from him. The only period of blur occurred when he was dropped to the ground from the helicar.

When his vision cleared again, he was in time to see another helicar come down in a nearby open space among the trees. The image of young Peter Clugy stepped out of it, and joined the image of the pilot. The two Yevd stood looking down at him.

Marenson braced himself. He was as good as dead, but the will to meet death standing up and fighting made him try to climb to his feet. He couldn't. His hands were tied to his legs.

He lay back weakly. He had no memory of having been tied. Which meant that he was wrong in believing that he had not been unconscious. It didn't matter, of course. With sick eyes he gazed up at his captors.

"What happened to the real Peter Clugy?" he asked finally.

The two Yevd merely continued to look at him, bleakly. Not that an answer was needed. Somewhere along the line of their moves to this point, Clugy's son had been murdered. It was possible that these two individuals did not even know the details of the killing.

Marenson changed the subject, and said with a boldness he did not feel: "I see I made a slight personal error. Well, I'll make a bargain with you. You release me, and I'll see to it that you get safely off the planet."

The two images wavered ever so slightly, an indication that the Yevd

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

were talking to each other by means of light waves above the human vision level. Finally, one of them said:

"We're in no danger. We'll get off this planet in our own good time."

Marenson laughed curtly. The laugh sounded unconvincing in his own ears, but the fact that they had answered him at all was encouraging. He said savagely: "The whole game is up. When I called Earth, the merest suspicion that Yevd were

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

involved set in motion a far-flung defense organization. And, actually, my call was not necessary. The discovery that Yevd were involved was made in connection with my wife, Janet."

It was a shot in the dark, but he was desperately anxious to find out if Janet were all right. Once more, there was the faint unsteadiness in the human images, that indicated conversation. Then the Yevd who was imitating Peter Clugy said:

"That's impossible. The person who accompanied your wife to Paradise Planet had instructions to destroy her if she showed the faintest sign of suspicion."

Marenson shrugged. "You'd better believe me," he said.

He was tingling. His own analysis had been confirmed. Janet had gone off on her vacation with someone she thought was her husband. It was a characteristic of Yevd imitating human beings that they liked to be with a real woman or man who would be able to do things for them. There were so many things that a Yevd could do only with great difficulty, so many places where it was dangerous for an individual Yevd to go. Thus the image of Peter Clugy had taken the risk of living with the real Peter's father, and the image of Ancil Marenson had gone along with the real Janet.

The pilot Yevd said: "We don't have to worry too much about any small group of human beings. Long married couples are not demonstrative with each other. Days go by without kissing. In other words, the person imitating you is protected from discovery by contact for at least a week. Our plan will be accomplished by then."

Marenson said: "Don't be a couple of fools. I can see you're going to be stupid and make us all die. That's where this kind of stuff is so depressing. We three will die. And no one will care. It's not as if we'll be heroes, any of us. You'll be burned, trying to escape, and I—" He broke off. "What's your plan for me?"

"First," said young Clugy's image, "we want you to sign a paper."

He paused; and Marenson sighed. His analysis of the situation had been so completely right—too late.

"And if I don't?" he asked. His voice trembled the faintest bit.

"Your signature," was the reply, "would merely make things easier for us. In doing what we have done, we had to act swiftly, and so none of our people capable of imitating a signature is available on this planet. That can be rectified in a few days, but fortunately for you, we want quicker action. Accordingly, we are in a position to offer you the choice of signing or not signing."

"O.K.," said Marenson ironically. "My choice is—I don't sign."

"If you sign," the Yevd went on in an inexorable tone, "we'll kill you mercifully."

"And if I don't?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"We leave you here."

Marenson blinked. For an instant it seemed a meaningless threat. And then:

"Yes," said Peter's image with satisfaction, "leave you here for the lymph beast's progeny. I understand they like to burrow into the flesh of anybody they catch—a very weight-reducing experience."

He laughed. It was a human laugh, a remarkable reproduction considering that it was done by light wave activation of a sound box it carried in its abdomen.

Marenson did not answer immediately. Until this instant, he had taken it for granted that the Yevd knew as much about the habits of those deadly dangerous creatures as did men. Apparently, their information was vague, accurate as far as it went, but—

"Of course," said Peter Clugy's image, "we won't really go away. We'll just go over to the ship and watch. And when you've had enough, we'll get your signature. Does that meet with your approval?"

Marenson had caught a movement out of the corner of one eye. It seemed a little more than a series of shadows very close to the ground, more like a quiver in the soil than anything substantial. But the perspiration broke out on his forehead. *Dark forest of Mira,* he thought, *alive with the young of the lymph beast*—He held himself very still, looking neither to the right nor to the left, neither at the Yevd nor at the shadow things.

"Well"—it was the Yevd image of the pilot—"we'll stick around and have a look at some of these creatures we've been hearing so much about."

They were moving away as the speaker reached that point. But Marenson did not turn, did not look. He heard a jerky movement, and then bright flashes lit up the dark corridor under the trees. But Marenson did not even roll his eyes. He lay still as death, silent as a log. A thing slithered across his chest, paused while he grew half-paralyzed with fright—and then moved on with a gliding movement.

The lights flashed more brilliantly now, and more erratically. And there were thumping sounds as if heavy bodies were frantically flinging themselves around. Marenson didn't have to look to realize that the enemy pair were in their death throes.

Two more Yevd were discovering the hard way that human beings were interested in the brainless lymph things because they *were* as dangerous to man's cunning opponent as to man himself.

For Marenson, the effort to remain quiet was a special agony, but he held himself there until the light was as spasmodic as a guttering candle, and as dim. When the glow had completely died, and when there had been silence for more than a minute, Marenson permitted himself the exquisite luxury of turning his head slightly.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Only one of the Yevd was in his line of vision. It lay on the ground, a long, almost black, rectangular shape, with a whole series of reticulated arms and legs. Except for the appendages, it looked more like a contorted bar of metal than a thing of flesh. Here and there over its surface, the body glittered with a black, glassy sheen, evidence that some of the light-controlling cells were still alive.

In that one look, Marenson saw no less than seven discolored gashes in the part of the Yevd body that he could see—which meant that at least seven of the young lymph beasts had crawled inside. Being mindless, they would be quite unaware that they had killed anything or that there had been a struggle.

They lived to eat, and they attacked any object that moved. If it ceased moving before they reached it, they forgot about it instantly. Utterly indiscriminate, they attacked leaves drifting in the wind, the waving branch of a tree, even moving water. Millions of the tiny snake-like things died every month making insensate attacks on inanimate objects that had moved for one reason or another. Only a very small percentage survived the first two months of their existence, and changed into their final form.

In the development of the lymph beast, Nature had achieved one of her most fantastic balancing acts. The ultimate shape of the lymph beast was a hard-shelled beehivelike construction *that could not move.* It was difficult to go far into the Mira jungle without stumbling across one of these structures. They were everywhere, on the ground and in trees, on hillsides and in valleys—wherever the young monster happened to be at the moment of the change, there the "adult" settled. The final stage was short but prolific. The "hive" lived entirely on the food it had stored up as a youngster. Being bisexual, it spent its brief existence in a sustained ecstasy of procreation. The young, however, were not discharged from the body. They incubated inside it, and when the shell died ate what was left of the parent. They also ate each other, but there were thousands of them, and the process of birth was so rapid that a fairly large proportion simply ate themselves to comparative safety outside.

On rare occasions, the outer shell failed to soften quickly enough for the progeny to escape their own savage appetites. At such times, the total "born" was greatly reduced.

Marenson had no trouble. As soon as he had carefully examined his surroundings, he climbed to his feet—and stood silent and cautious while he made another prolonged investigation. In that fashion, step by step, he moved toward the helicar that stood in the little open space just beyond where the first machine had crashed.

He reached it and a few minutes later was back at the camp. Clugy warned, and the entire camp finally

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

on the alert, he took another pilot-guide—this time after both he and the pilot were tested for humanness—and flew to the distant pleasure town. News awaited him there.

The Yevd gang was caught. Janet had become suspicious of the Marenson image, and had skillfully aided in its capture. That put the security police on the trail, and it was a simple matter of following the back track of the persons involved.

It took another hour before Marenson was able to contact Janet on Paradise Planet. He sighed with relief when her face came onto the visiplate. "I was sure worried," he said, "when the Yevd here told me that my image was counting on the habits of old married couples. They evidently didn't realize why we were taking the trip."

Janet was anxious. "A police ship will be calling at Mira tomorrow," she said, "be sure to get on it, and come here as fast as you can."

She finished, "I want to spend at least part of my second honeymoon with my husband."

THE END

IN TIMES TO COME

Our July cover is going to be a considerable departure from the usual science-fiction theme. It will be more on the order of our astronomical color-plate covers, in essence—a painting of a real subject of science-fiction interest. This painting, however, is strictly terrestrial—the Brookhaven National Laboratory atomic pile building under construction. Hubert Rogers spent days out at Brookhaven last fall making sketches of the pile building, and of various scenes in the labs around; there will be in the next issue a sort of "Brookhaven Sketch Book" series of black and whites to accompany the cover painting of the pile building.

The Brookhaven reactor is scheduled to go into action sometime this summer; with luck—mutual!—this cover painting may be on the stands at just about the time the pile first starts operating.

Besides which, it's a good painting anyway!

And the story line-up you'll find interesting, naturally. L. Sprague de Camp's back, L. Ron Hubbard also among the old favorites, with Peter Phillips in the new favorites department, plus one first-story that takes the long-novelette place. Be interested in what you think of James H. Schmitz "Agent of Vega."

THE EDITOR.

P.S. And—of great interest to all of you, I know: The summarized results of our questionnaire poll will be published next month. If you want to know who you (plural) are, you (singular) better get that copy!

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TO WATCH THE WATCHERS

BY W. MACFARLANE

Tully Kloote wasn't anything special in the way of a man, really—but he did one remarkable thing—in a sort of offhand, accidental way—that meant a lot to men of the whole Galaxy!

Illustrated by Orban

Tully Kloote was a big exuberant man who had the unusual gift of keeping quiet about himself. He had just passed his fifty-fourth birthday when he cleared Doering Field in a converted CS-II spaceship, and that was the last anyone ever saw of him. When he'd been gone five years, his bank forwarded a slim envelope to the National Science Council. When the council got around to looking at it, and understood what they had, the biographical branch had to do a lot of scurrying around to get any presentable facts on the man who had cut mankind loose from the solar system.

Then all the video screens flashed the red-bordered "Attention-Attention-Attention," and the announcers got all starry-eyed about him. If you didn't look too closely, he was a typical product of his age. He teethed on a slip stick, and sat on a copy of Clempson's "Extra-Terrestrial Navigation" to reach the table. His parents were independent geologists, and Kloote just happened to be born on Venus. By the time he was twelve he had set foot on most of the planets and a lot of the asteroids, and had developed a highly atypical attitude toward life as it was lived on Earth.

Take the name of his spaceship. One scholarly commentator pointed out that Kloote had obviously intended to call it the *Assam Dragon,* after an intrepid group of internal-combustion aircraft pilots who fought in what turned out to be the first atomic war. But he made a mistake. He called it the *A Saint Dragon,* and only a few people, who knew a little of the old profanity, chuckled every time they heard it.

He was not typical in that after he graduated from Utah's Atomic Theory school he went to meteor

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

mining, and did his reasearch by himself, instead of applying for a government study grant. When his galactic drive theory was completed and he needed a lot of money to try it out, he developed a by-product of his research to the point of commercial exploitation, and sold his sun-power battery to U. S. Electric for a nice sum.

His will was unusual too, and the commentators left out most of it in presenting Kloote's character to the public. Two examples will suffice:

"$10,000 to the person who will organize a Society for the Prevention of Lurie-Jean Davis." Lurie-Jean was a child video star, and as cute as a dimple.

"10,000 to the person who is instrumental in having beer served at all functions of the National Science Council."

After an undercover legal battle the government used the money to build a statue of Tully Kloote, along with a fund devoted to cleaning it off every year, because they put it up in Philadelphia. The factories were smokeless by that time, but a lot of sentimentalists still loved the pigeons.

It was really a pretty good statue, and after you looked at it you knew that Kloote had a square face and bushy eyebrows; if you were perceptive enough you could see the tension in the body and the outflung hand that seemed to gather in the stars. On one side of the base they cut "Tully Kloote—Ad Astra," and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

on the other "$K_2 = MV\infty$" and let it go at that, which showed more restraint than you might expect. Kloote's final equation, the $K_2 = MV\infty$, couldn't do any harm unless you understood the five pages of obtuse mathematics that preceded it.

The few people who knew both sides of Tully Kloote kept expecting him to show up on Earth any day, because he coupled a mind of the highest order with a gusty love of life. But they were dead a hundred years before Kloote made the red-bordered video again, and the announcers had a field day talking about the planet Kloote, and the curious beings who called themselves Klootians.

The Klootians took it upon themselves to render judgment to all who asked for it. And since their justice was based on the common denominators of all sentient, thinking life, and by the nature of the beings unclouded by emotions, slowly they became a sort of supreme court for the galaxy. When the people of Earth refused to understand the point of view of the people of Mars, the aggrieved parties would go to Kloote, and get an unbiased summation of the facts.

There was no use bringing lawyers on the trip, or hiding any relevant material, for the Klootians were telepathic, and the few fanatics who tried to drop an atomic bomb on the planet made small bright super-novae before they got within a light-year of the place. Justice is a theoretically desirable thing, and because man is adaptable, he managed to get along with it.

So the word crept into the language, and mankind had something that came as close to absolute justice as has ever been known. "It's true, by Kloote!" one man would say to another, and that meant that the statement was copper bound and tight riveted, and that as far as truth went, it was true.

One of the contributing factors in accepting the Klootians as unprejudiced judges on any question in the known universe, was their unlimited desire for privacy. They had no interest in material gain for their services. No one has ever seen a Klootian, except for Tully Kloote, though a hundred worlds have tried to visualize them. "Inside" stories have been told by the million. They are a silicon life-form. They are giant brains. They are a race of benevolent spiders. They are the men beyond men. They are the planet Kloote itself.

Spaceships were never allowed to come closer than one hundred thousand kilometers, and atmospheric distortion never permitted too close an inspection of the surface of the planet. One feature of a featureless landscape that has been the subject of endless speculation is an awkward, manlike statue that stands on a low mountain by a shallow sea. But no man has ever climbed the hill to get a close look at it, and no man has ever read the inscription on its base.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

When Tully Kloote had been poking around in space for six years he began to think of going home again. And if he hadn't stopped off to investigate a planetary system in Burcelle III E, he might have made it. He was having lunch when #2 tube blew. He cut #2 out of the group and finished his lunch. In space a man must have something finite to tie himself to, and Kloote's reminder was a gadget that prepared the meals and served them, and didn't stop ringing a bell until he was sitting at the table.

You could cheat the system by sitting in the chair for fifteen minutes, but when the food was there, steaming on the table, you usually ate a little of it, no matter how absent-mindedly. So he finished the meal from force of habit, and then swung the ship into an orbit around a minor planet and cut the drive. He climbed into a spacesuit and went to take a look at the damage. He had been in control of his environment for so long that he anticipated no great difficulty. But when he saw what had happened, the words of Grierson, the metallurgist who had designed the tubes, came to his mind:

"Maybe they're too perfect, Tully. When you mess around with the atomic structure of metals, sometimes you throw in a cat by the tail, and it might yowl sooner or later. Watch those tubes, because I'm afraid I've designed you a wonderful one-hoss shay. Hah? Oh. The one-hoss shay was so well built that it kept going until it fell apart all at once."

Kloote decided to take her down to the surface of the planet to get a really good look, and #3 tore loose just as he got into the atmosphere. He didn't have much choice about a landing place with two tubes missing, and he dried up a little lake when he set the ship's tail gently into it. He cut the feed in time to hear #4 start to sizzle as he settled into the mud on the fins.

"How about it?" he growled. The complicated mechanism growled back at him in his own voice, and grudgingly told him what kind of a place he'd landed on. Gravity, temperature, humidity, cosmic ray count, atmospheric content and so on. Quite suitable for human life. The meal bell started ringing then, and Kloote spent half an hour going through the intricate locks he'd built to prevent himself from shutting the thing off.

Tully Kloote was never one to fool himself, and he realized thoroughly that he was stuck here for an indefinite time. The tubes were made of Stelium, and cost around twenty dollars a pound. Eighteen dollars of the cost was fabrication and manufacture, and though it was barely possible that he could salvage enough of the obdurate metals from the ship to make the alloy, the technology that went into their construction was possible with only the most advanced techniques of a highly technical science.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

He felt that he ought to be concerned with getting away from this place, but he wasn't. Instead he felt vaguely pleased. He had never realized it before, what a heavy weight a man carries about on his shoulders! He is of mankind, and thoroughly mixed up in it. No matter where he goes on Earth, he can expect another disillusionment to walk up on two legs or drop down in a flier. But here, on this obscure wart of a world nobody would bother him.

The air lock sighed open, and Kloote jumped to the ground. What a wonderful place. There just wasn't a thing to distract a man. The planet was about Earth size, but a .48 gravity gave an illusion of boundless strength and well-being. The hills were low and rolling, and were covered by a yellow-green furze not over twenty centimeters high. It was rich succulent stuff, full of water, and crackled briskly as Kloote walked out of the blast area to a nearby hill.

A shallow sea glimmered in the distance, and the sky was blue. A more vivid blue than Earth, Kloote thought, though he realized that after six years in the star ship he might not be too good a judge. A pleasant place with nothing to distract a thinking man or lead his thoughts astray—just gently flowing hills, and a low mountain over there on the coast. Such fresh clean air, too, with a promise of rain in the clouds over the land.

Kloote bounded back to his ship in effortless jumps, and sat down at a desk to consider a special branch of time relationship that interested him. So his life resumed its normal pattern. He did his research and screened his references, and stormed and kicked and swore when he couldn't quite nail down another little corner of the unknown.

As time went by he began to take walks more frequently. He adapted his schedule of work to the rain, for every afternoon there was a downpour that for a short while nearly covered the low vegetation. He had to construct a bridge from the air lock to dry land, for the rains had filled the lake again, and the ship stood like an island, the tubes just above the water.

He took a walk after lunch one day and skipped some flat stones across the placid ocean. He crossed a low saddle between two hills to return to his ship before the rain, and discovered the inhabitants of the planet.

To Kloote they looked like jelly doughnuts with legs. They were round, a little over a meter in diameter, and half as thick. They had four stumpy legs and a blob of red substance in the center of the top side. Kloote went down the hill to get a closer look, and he saw that they were grazing. They would waddle to an untouched patch of vegetation and plump down. When they got up again the furze would be nibbled to the roots.

"I'll be—" began the man, squat-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ting down beside one of the creatures, and poking its mottled gray skin with a finger.

"Stop that!" said the thing.

"Huh?" said Kloote, sitting down with a bump.

"It is not necessary to make interrogatory noises when you heard us the first time. That your mental responses are slow is no reason for making us repeat an obvious statement.

"Hell's bells!"

"We have no reference for such mythology," said the creature, "but as far as a hundred thousand years of inquiry go, you're wrong again." It was about this time that Kloote realized that the words were being formed in his head, rather than in his ears. That didn't make him like the tone of the thoughts any better, they were too flat, too offhand. They ought to be surprised, at least.

"You think!" said Kloote, half to himself. In reply to that he got a mental snigger that raised his temperature thirty degrees. "Now wait a minute, you big lump of dough—"

"If an improbability like you can think, and we are forced to accept the logic of that argument, you should be equally capable of thinking clearly. Try."

"I'll be a monkey's uncle!" said Kloote, but that is not exactly what he said.

"We doubt it."

"Aaaagh!" said Kloote.

"We agree, with reservations." Kloote kicked up a clump of furze and stomped back to his ship.

The trouble with the things was that they might have a sense of humor, he thought. When representatives of different races met, they ought to have a band, instead of making dirty cracks at each other. Maybe he should have drawn them a simple geometric figure, or pointed out that five and five make ten. He hadn't used the proper approach, that was all. But what could a man reasonably expect from doughballs with teeth in their bottoms?

The next day he climbed the hill again and dropped into the little valley. There was only one beast there, and it was dead. He walked around it a couple of times and poked it with his toe. He climbed over another rise and found the jelly doughnuts grazing peacefully there.

"Hello," he said.

"We know you're here," said the flat voice in his head. "It is not necessary to make a salutation." Kloote threw another half-hitch around his temper.

"What do you call yourselves?" he asked.

"We are us. We need no name."

"One of you is dead in the other valley," said Kloote.

"We know it."

"How did he die?"

"He drowned."

"Why?" Kloote sat down on the ground and rumpled his hair. This could go on forever. It was getting monotonous, though.

"We didn't get out of the flood water in time."

"Don't you care if you live?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"No. Do you?" Kloote hugged his knees to his chest and rocked back and forth. "You have not answered our question. Do you care if you live?"

"Why, yes," said Kloote slowly. "Why?"

"Charcoal broiled steak. $K_2 = MV\infty$. Let's see. Hallowe'en."

"The body, the mind, and—"

"Hope and fear and love and laughter, I think," said the man. His mood had changed. "So long."

"It is not necessary to make a valediction. We know you are leaving." The man laughed and went down to the shallow ocean to skip some more flat rocks. He was caught in the rain before he got back to his ship.

A fine thing, he thought as he changed clothes, here mankind meets the first known intelligent life, and the first thing they find to talk about is how many angels can stand on the point of a pin. The common theory was to draw them a picture of a hydrogen atom. Maybe even $K_2 = MV\infty$. But no. The things get personal and fundamental. "Why do you care if you live?" That wasn't any of his professional business. Without assuming an absolute, there wasn't any answer.

"Then why don't you drown yourselves?" Kloote greeted them cheerfully the next day.

"Drowning is not comfortable. All life wants to be comfortable."

"Then you don't want to die."

"No. Do you?"

"No."

"Why?"

"There's too much to do, too much I haven't done."

"It is not necessary to be redundant. There is much we haven't done, yet we expect to die soon."

"Huh?"

"Your ship is radioactive, and within a year it will have upset our metabolism to a point where we can no longer live."

"What do you want me to do about it?" said the man belligerently.

"That is your problem." Kloote stared at the grazing figures.

"Is there any reason why you should live?"

"We are an old race." The words whispered through his mind like a dry leaf. "We were old when man's prototype swung from the trees. We are organically equipped to study the universe as you are not. We have been aware of $K_2 = MV\infty$ for twenty thousand years. Yet we have not been able to answer a single fundamental question about life, though we can create life if we so desire. No. There is no reason why we should live."

The man sat quite still. "How did you know that human beings evolved from . . . well, monkeys?" he asked.

"You are here." That had all the earmarks, thought Kloote, but he let it pass. "We know all of mankind, all of your world, and most of its past. We can postulate its future."

"Yeah?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"We have racial, eidetic memory. We can reason. More, we have curiosity."

"But you must die?"

"It is impossible to adapt ourselves in so short a time."

"But my tubes—"

"We know."

"Hell!"

"We agree."

Kloote went back to his ship and blew the lake clear with his two remaining tubes. When the ground had stopped steaming, he made his inspection. When the job was done he went to see the beasts.

"We know," said the voice as he drew near.

"Oh. Well, you'd better get a couple of more hills away."

"We know."

"O.K." The creatures didn't answer. He went back to his ship and the air lock hissed shut behind him. He slouched down in the astrogator's chair and slapped the warm-up button. He frowned, and then he grinned. He eased the automatics to "Take-off" and relaxed.

He got through the atmosphere all right, and was doing some rapid mental calculations as to how soon he could expect the ship to blow, when the voice sounded clear and sharp in his head.

"We could have destroyed you before you landed, but since living is a dangerous thing, we chose to risk your descent. You are the proof we needed that there exists a race to use us. We lack a quality of mind that your preposterous people have—hope. Hope and faith. Our projection of the future gives us reason to believe that they will be repaid for your loss."

"Yeah. We don't know where we're going, but we're on our way," said the man absently, his eyes fixed on the instrument panel.

"Good-by, Tully Kloote," said the voice, and it was warm and friendly, somehow.

"An adieu is not necessary," said Kloote grimly. "I know where I'm going." The needle on the power-flow hit the red, and an alarm started clanging. "Hell!" said Tully Kloote.

"We don't agree."

The star ship dissolved into pure energy well beyond the danger zone, and the creatures continued their placid existence for a hundred years before another ship nosed down toward them.

They had never built a thing in the history of the race, yet they raised a statue on top of the low mountain by the shallow sea. It is an awkward thing, standing on two misshapen legs, but the square face is there, and the blank eyes seem to look beyond the stars.

On the base, in exquisite, mathematically exact letters are these words:

Tully Kloote

It is a proud and lonely thing to be a man

THE END

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

A SOUND INVESTMENT

BY RENÉ LAFAYETTE

Old Doc Methuselah had troubles on that trip. Trouble with Hippocrates and, though he didn't know it, trouble with a soundly beaten bunch of people!

Illustrated by Cartier

The self-righteous Hippocrates was just returning from a visit to the *Alpheca* when the first blast hit him.

It was, however, not a very serious blast. The entire force of it emanated from the larynx of Ole Doc Methuselah, Soldier of Light and member extraordinary of the Universal Medical Society.

But if it came from a larynx, it was a much revered organ and one which, on occasion had made monarchs jump and thrones totter.

"Where are my old cuffs?" howled Ole Doc.

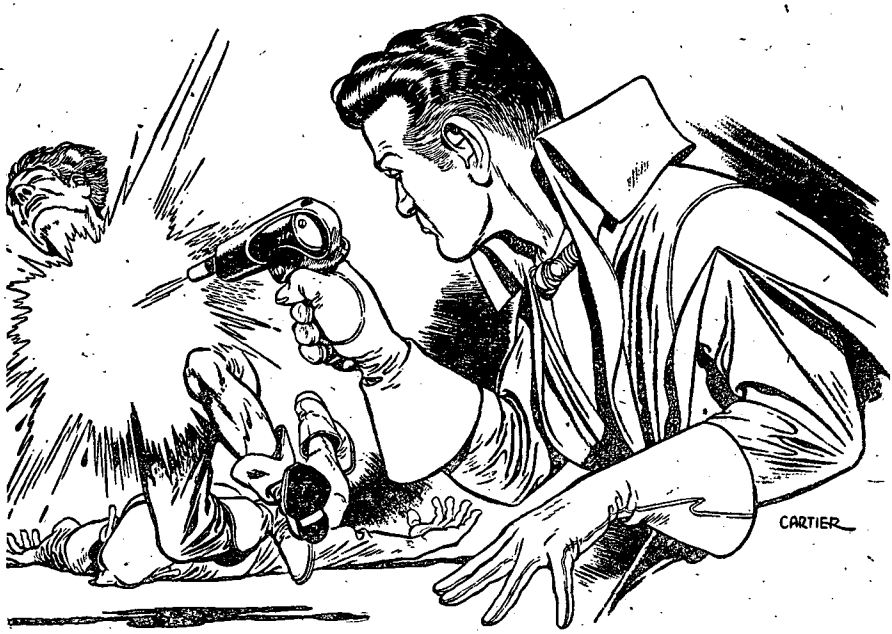
This was a trifle unnerving to the little four-armed slave, particularly since, during the entire afternoon on the *Alpheca,* Hippocrates had been telling stewards and cooks, in the course of lying and bragging, what a very wonderful master Ole Doc was.

"You multi-finned monkey! If you've thrown out those cuffs I'll . . . I'll throw enough water on you to make a plaster demon of you! Tie into those cabinets and locate them! On the double!"

Hippocrates hurriedly began to make pieces of paper and bits of correspondence fly out of the file case in a most realistic fashion. He was innately neat, Hippocrates. He kept things in order. And like most neat people he kept things in order in very much his own way.

The items in question he knew very well. Ole Doc Methuselah possessed a horrible habit of writing on the cuffs of his golden shirts whenever he thought of a calculation of great intricacy and these cuffs Hippocrates tore off and filed. Now for some three hundred and twenty years he had been tearing off cuffs and filing cuffs and never once had Ole Doc so much as whispered that he ever wanted to look at an old one or consult the data so compiled, working always from a magnificent memory. And these particular items had piled up, got moldy, spilled over and been crammed back

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



a thousand times without ever once serving a purpose.

Hippocrates, two weeks ago, had burned the entire lot.

"Look for them you gypsum idiot!" roared Ole Doc.

"Yes, master! I'm looking, master. I'm looking every place, master!" And the filing cases and the office became a snowfall of disturbed papers, old orders, report copies, pictures of actresses and autographed intimate shots of empresses and queens. "I'm looking, master!"

Nervously Hippocrates wondered how long he could keep up this pretense. He had a phonograph-record-wise mind which, while wonderful in copying past situations, was not very good at inventing new ones. "They can't be very far, master. Where did you lose them?"

Ole Doc snapped up his head out of a liquor cabinet currently in search and glared hard enough to drill holes in plate. "Where did I lose them? *Where* did I lose them? If I knew that—"

"Just which cuff did you want?" said Hippocrates, antennas waving hopefully.

"The sonic notes, you feather-brained fop! The sonic notes I made two years ago last Marzo. The equations! I wrote them on my cuff and I tore it off and I distinctly recall giving it—" Ole Doc looked at the wreck of the file case in sudden understanding.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Hippocrates, what have you done with those cuffs?"

"Me? Why, master! I—"

"Don't lie to me! What have you done with them?"

Hippocrates shrank away from Ole Doc, demonstrating the force of mind over gypsum, for Hippocrates, weighing five hundred kilos in his meter of height, could bend inch iron plates with any one of his four hands. "I didn't mean any harm. I . . . I was house-cleaning. This ship, the poor *Morgue,* the poor, poor *Morgue!* It isn't as if she was human. And she all cluttered up with junk, junk, junk and I—" He gulped and plunged. "I burned them!" He shut his eyes convulsively and kept them shut.

The deck plates of the U.M.S. portable hospital, however, did not open and engorge him and the planet on which they were resting did not fall in halves. After several seconds of terrible tension, Hippocrates risked opening his yes. Instantly he went down on his knees.

Ole Doc was slumped in a chair, his head in his hands, a reasonable facsimile of intense despair.

"Don't sell me," begged Hippocrates. "Don't sell me, master. I won't ever burn anything again. I'll let the whole place fill up with anything you want to bring aboard. Anything! Even women, master. Even *women!!*"

Ole Doc didn't look up and Hippocrates wandered in his gaze, finally rising and tottering to his galley. He looked at it as one who sees home for the last time. A phrase rose out of "Tales of the Space Pioneers"- of a man saying good-by to his trusty griffon and Hippocrates, sniffling dangerously—because it might soften his upper lip—said, "Good-by, old pal. Many the day we've fit through thick and thin, agin horrible and disastrous odds, battlin' our way to glory. And now we got to part—"

His eyes caught on a bottle of ink and he took a long swig of it. Instantly he felt better. His spirits rose up to a point where he felt he might make a final appeal.

"Why," he said to his master, "you want cuff?"

Ole Doc dropped the dispatch he had been clutching, and Hippocrates retrieved it.

OLE DOC METHUSELAH
MORGUE
HUB CITY GALAXY 16

WILHELM GIOTINI YESTERDAY ENDOWED UNIVERSAL MEDICAL SOCIETY WITH ALL REVENUE FROM HIS LANDS IN FOMALTON SYSTEM. PROCEED AND SECURE. FOMALTON ADVISED YOUR FULL AUTHORITY TO ACCEPT PROVISIONS OF GIOTINI WILL.

THORPE,
ADJUTANT
CENTER

Appended to this was a second dispatch:

DISTRESS OPERATIONAL PRIORITY

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ANY SOLDIER OF LIGHT ANYWHERE

FOMALTON FULL QUARANTINE UNIDENTIFIED DISEASE BEG AID AND ASSISTANCE.

LEBEL
GENERALISSIMO
COMMANDING

And yet a third message:

OLE DOC METHUSELAH
MORGUE
HUB CITY GALAXY 16

YOUR INFORMATION WILHELM GIOTINI EXPIRED EARTHDAY U.T. OF MIND CONGESTION FOLLOWING ATTACK BY ASSASSIN USING SONIC WEAPON. AS REQUESTED BODY PRESERVED PENDING YOUR ARRIVAL FOMALTON.

LEBEL
GENERALISSIMO
COMMANDING

Hippocrates finished reading and memorizing—these were the same to him—and was about to comment when he found Ole Doc was not there. The next instant the automatic locks clanged shut on the hatches, the alarm said quietly, "Steady all. Take-off," and the *Morgue* stood on her tail and went away from there, leaving Hippocrates in a very sorry mess of torn papers and photographs, still clutching the dispatches.

It was not a very cheerful voyage. In the first place Ole Doc stressed to three G's above the ship's gravitic cancelators and put the sturdy old vessel into an advance twice over what her force field fendors could be expected to tolerate in case of space dust. All this made food hard to prepare, bent instruments and gauges in the operating room, pulled down a whole closet full of clothing by breaking the hold-up bar and generally spoiled space travel for the little slave.

Not one word during the next two weeks did Old Doc breathe to Hippocrates and that, when only two beings are aboard, is something of a strain on anybody's nerves.

However, the Universal Medical Society had long since made provisions against space-neurasthenia by providing large libraries in natural and micro form to every one of its vessels and seeing that the books were regularly shifted. A new batch had come at Hub City and Hippocrates was able to indulge himself somewhat by reading large, thick tomes about machinery, his penchant.

He learned all about the new electronic drives for small machinery, went avidly through the latest ten place log table—finding eighteen errors—studied a thousand page report on medical force fields, finished up two novels about pirates and reviewed the latest encyclopedia of medicine which was only fifteen volumes at a thousand words shorthand per page. Thus he survived the tedium of coventry in which he found himself and was able to look upon the planet Gasperand of Fomalton with some slight interest when

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

it came spiraling up, green and pearl and gold, to meet them.

Hippocrates got out his blasters, recalled the legal import of their visit and packed a law encyclopedia on wills in the medical kit and was waiting at the lock wthen Ole Doc landed.

Ole Doc came up, belted and caped, and reached out his hand for the kit. Hippocrates instinctively withdrew it.

"I will carry it," said Hippocrates, put out.

"Henceforward," said Ole Doc, "you won't have to carry anything." He pulled from his belt a big legal document, complete with U.M.S. seals, and thrust it at Hippocrates. "You are free."

Hippocrates looked dazedly at the paper and read "Manumitting Declaration" across its head. He backed up again.

"Take it!" said Ole Doc. "You are perfectly and completely free. You know very well that the U.M.S. does not approve of slaves. Ten thousand dollars is pinned to this document. I think that—"

"You can't free me!" cried Hippocrates. "I won't have it! You don't dare! The last dozen, dozen times you tried to do it—"

"This time I am serious," said Ole Doc. "Take this! It makes you a full citizen of the Confederated Galaxies; gives you the right to own property—"

"You can't do this to me!" said Hippocrates. His mind was not very long on imagination and it was being ransacked just now for a good, telling excuse. "I . . . I have to be restored to my home planet. There is nothing here for me to eat—"

"Those alibis won't do," said Ole Doc. "Slavery is frowned upon. You were never bought to serve me in the first place and you know it. I purchased you for observation of metabolism only. You've tricked me. I don't care how many times I have threatened to do it and failed. This time I really mean it!"

He took the kit, threw the manumission on the table and stepped through the air lock.

Hippocrates looked disconsolately after his Soldier of Light. A deep sigh came from his gypsum depths. His antennas wilted slowly. He turned despondently to wander toward his quarters, conscious of how empty were his footsteps in this hollow and deserted ship.

Ole Doc paused for an instant at the lock as a swimmer might do before he plunges into a cold pool. The port was thronged by more than a reception committee for him. Several passenger tramps stood on their rusty tails engorging long queues of refugee passengers and even at this distance it was plain that those who wanted to leave this place were frightened. The lines pushed and hauled and now and then some hysterical individual went howling up to the front to beg for immediate embarkation. The place was well beyond panic.

Beside the *Morgue* stood a car and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

a military group which, with several civilians, made a compact crowd of welcome for the Soldier of Light. In the front was a generalissimo.

Lebel was a big fellow with a big mustache and a big black mane. He had a big staff that wore big medals and waiting for him was a big bullet-ray-germ-proof car.

"Friend!" said Lebel. "Come with me! We need you! Panic engulfs us! There are twenty-five thousand dead. Everyone is deserting the system! We are in terrible condition! In a few days no one will remain in all Fomalton!"

Ole Doc was almost swept up and kissed before he recalled the customs in this part of the galaxy. He twisted expertly away to shake an offered hand. Generally he didn't shake hands but it was better than getting buried in a mustache. The crowd was surging toward him, cheering and pleading. Lebel took Ole Doc by the hand and got him into the refuge of the car. It was a usual sort of reception. The U.M.S. was so very old, so very feared and respected and its members so seldom seen in the flesh that welcoming parties were sometimes the most dangerous portion of the work.

"We have a disease!" said Lebel. "You must cure it! Ah, what a disease. A terrible thing! People die."

If he expected a Soldier of Light to instantly vibrate with interest, he did not know his people. Ole Doc, approaching his thousandth birthday, had probably killed more germs than there were planets in the Universe, and he hoped to live to kill at least as many more. He leaned back, folded his cape across his knees and looked at the scenery.

"It came on suddenly. First we thought it was something new. Then we thought we had seen it before. Then we didn't know. The doctors all gave it up and we almost deserted everything when somebody thought of the Soldiers of Light. 'Lebel!' I said. 'It is my duty to contact the Soldiers of Light.' So I did. It is terrible."

Ole Doc restrained a yawn. "I was coming here anyway. Your Wilhelm Giotini left the revenue of this system to the U.M.S.

"So I heard. But I thought that would mean a lawyer coming."

"We don't have any lawyers," said Ole Doc, easing his holstered blaster around into sight.

"But this terrible disease, it will change your plans, eh? Who would want a planetary system full of diseases. What a horrible disease!"

"Kills people?"

"Kills them! They die in windrows! They scream and then they die. But I will take you and you will see it. I have a helmet here so that I can enter infected areas. I have one for you."

"I have my own helmet," said Ole Doc.

"No, no!" cried Lebel. "I could not risk it. I *know* this helmet here is germ proof. It was tested. These germs come through the smallest, the tiniest air leak!"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Why did you risk that crowd back there?" said Ole Doc.

"That! *Poof!* My own people. My aides. My airport people. They would not infect me with any disease! Here, try this helmet for size."

Ole Doc blinked a little at the man's terrible conceit and was on the verge of remarking that he had yet to meet a respectful germ when the first casualties caught his eye.

A street ahead was barricaded. Bodies were piled in either gutter, bodies in various stages of decomposition, of both sexes, of many races and castes. Velvet and burlap were brothers in that grisly display.

"Ought to bury them," said Ole Doc. "You'll have cholera or something if you don't watch it."

"Bury them! Who'd go near them! They are thrown out of the houses like that young girl there and nobody—"

"Wait a minute," said Ole Doc. "Stop the car!"

For the young girl was not dead. She was dressed in satin, probably in her wedding dress, for a church stood fifty feet further on, and her hair was a golden flood upon the pavement. She was pressing up with her hands, seeking to rise and falling back, each time screaming.

Ole Doc reached for the door handle but Lebel blocked him. "Don't risk it!" said Lebel.

Ole Doc looked at the frantic effort of the girl, looked at her young beauty, at the agony in her eyes and then took Lebel's offer of a helmet. When he had it strapped on—an act which prompted both Lebel, his guards and driver to hastily do the same—he shot the bolt on the door and stepped to the pave. He gazed at the girl in satin for a moment in deep thought.

Ole Doc advanced, fumbling for the speaker buttons on the side of the helmet and finding with annoyance that the phones were squeaky in the upper frequencies. The screams came eerily through this filter. He turned down the volume in haste.

He helped her up and tried to speak to her but her eyes, after an instant of trying to focus, rolled out of concentration and screams tore up from her as though they would rip her throat to shreds. She beat at him and fought him and her gown tore down the side. Ole Doc, aware that Lebel was fearfully at his side and trying to get him away, let the girl slide back to the ground, moving her only so that she now lay upon the grass.

"Hippocrates!" said Ole Doc.

But there was no Hippocrates there and Ole Doc had to fumble into the kit himself. He laid out all the volumes of law in some amazement, holding the girl down with one hand and fishing in the case with the other; and was much wroth at all this weight. Finally he found his hypo gun and an instant later the generalissimo's aides were gripping his wrist.

"Let go!" stormed Ole Doc, too busy holding the girl to make much

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

of a fight of it.. But they continued the contest, wrenched his shoulder and made him give up what they thought was a weapon.

"Nobody draws around the generalissimo!" said the big guard, his voice shrill and squeaky in the filter of the phones.

Ole Doc glared at them and turned to his patient. He felt her pulse and found that it was racing somewhere around a hundred and forty. He took her temperature and found it only slightly above normal. Her skin was dry and pale, her blood laked in the depths of her body. Her palms were wet. Her pupils were dilated to their entire diameter. Through the rents in the dress it could be seen that no blemish marked her lovely body.

Ole Doc stood up. "Lebel, give me that gun."

Lebel looked uncertainly. He had taken no part in the brief skirmish but it was plain that he was not sure exactly what the weapon was.

"Then do it yourself," said Ole Doc. "Point it at her side and pull the trigger."

"Oh!" said Lebel, seeing some parallel between this and the treatment he gave cavalry horses with wounds. He brightened and with something close to pleasure did as he was bidden.

The small hypo gun jumped, a small plume of spray-fog winding up from its muzzle. The girl quivered, stiffened and then sank back unconscious. Lebel looked in disappointment at the gun, gazed with contempt into its muzzle and threw it into the kit.

"I thought it was a weapon!" he said. "Ten-fifteen-twenty times people have tried to assassinate me. That I should fear a Soldier of Light is very foolish of me. Of course it was just a medication, eh? Well, well, let's get off this street. The sight of civilian dead worries me. On the battlefield it is another thing. But civilian dead I do not like. Come!"

Ole Doc was coming but he was also bringing the girl.

"What do you mean to do with that?" said Lebel.

"I want a case history of this thing," said Ole Doc.

"Case— No, no! Not in my car! I am sick of this helmet! Leave it there where it was I tell you! Smorg! Dallison! Put that girl back—"

The two aides didn't wait for the full command. They surged up. But Ole Doc wasn't trying to hold a struggling girl now. She quietly slid to the grass while Ole Doc's hands moved something faster.

He could have drawn and burned them to glory long before they could have reached him. He contented himself with flicking a dart from each sleeve. The action was very quick. The feathered ends of the darts fell back without their points. Smorg and Dallison stopped, reached for their weapons and froze there.

"Attention!" said Ole Doc. "You

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

will obey only me. You can never obey anyone else again. Get into the car!"

And two aides, like wound up clockwork, turned around and got into the car like obedient small boys.

"What have you done?" yelped Lebel.

"They are in a fine, deep trance," said Ole Doc. "I dislike being handled by anyone, Lebel. No Soldier of Light does. We are only seven hundred in the entire Universe but I think you will find that it pays to be very polite to us. Now do you sleep or co-operate?"

"I'll co-operate!" said Lebel.

"Put this girl in the car and continue to the place you have kept Wilhelm Giotini."

The gawping driver saw his passengers and their cargo in place and then swiftly took Lebel's orders for the palace. The car rocketed through the death-paved streets, shot up the ramp of the ruling house and came to a halt in the throne room.

Lebel got out shakily. He kept licking his lips and looking around as though on the watch for guards. But he was at the same time half afraid to give any orders to guards.

Ole Doc looked at the furnishings, the golden throne, the alabaster pillars. "Nice place," he said. "Where's Giotini?"

"I'll take you up there," said Lebel. "But stay a moment. You are not going on under the misapprehension that I am trying to block you in any way, are you? I am not! My aides are jumpy. They have orders. I am jumpy. My entire system of planets is coming apart with a disease. The ruler is dead and I have only some small notion of what he meant to do. You are the first Soldier of Light I ever saw. How do I know if you really are one? I have heard that they are all old men and you look like a boy."

Ole Doc looked at him appraisingly, planted his boots firmly on the great orange squares of the throne room and looked at the assembled guards. "Generalissimo, you are not the first to question the identity of a Soldier. Therefore I shall be patient with you. Disease is our concern. Medical research. Any medical weapon. We safeguard the health of mankind through the stars against plague and medical warfare. Several hundred years ago we organized the Universal Medical Society to combat misuse of germs and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

our scope is broader yet. Now if you require some proof of my identity, attend me."

Lebel walked lumberingly after Ole Doc up to the line of guards who, drawn stiffly to attention, brilliant in their palace uniforms, looked at nothing and no one. Ole Doc reached out a finger at a sergeant.

"Step forth!" said Ole Doc.

The sergeant took a smart pace forward and saluted. Ole Doc, with legerdermain which defied the eye, produced a brilliant button which fixed his subject's eyes.

"Extend your hand!" said Ole Doc.

The sergeant automatically extended his hand. His was weaving a trifle on his feet, his eyelids fluttering rapidly.

"You cannot feel anything in your entire body!" said Ole Doc. Out came a lancet. Up went the sergeant's sleeve. Ole Doc gashed a five-inch wound into the forearm, picked up the beating artery like a rope, dropped it back and pressed the flesh to stop the bleeding. He reached into a cape pocket and extracted a small rod, a ray-rod of pharmacy with a Greek symbol on it. He passed the rod over the wound. It closed. He reversed the rod and passed it once more. The scar vanished. There was nothing but blood on the floor to mark what had happened.

Ole Doc snapped his fingers to awaken his subject and pushed him back into line.

"Do you require further proof?" said Ole Doc.

The line had forgotten to be military and was a little out of rank now with slack-jawed staring. Lebel backed up, blinking. The sergeant was looking curiously around and wondering why everybody was so startled, disappointed to find he had missed something.

"I never doubted you!" said Lebel. "Never! Come right away into the south hall where we left him. Anything you say, sir. Anything!"

Ole Doc went back to the car and shouldered the body of the young girl. He was beginning to miss Hippocrates. Doing manual labor was a thing which Ole Doc did not particularly enjoy.

Wilhelm Giotini was lying on a tall bed, a scarlet sheet covering his face, his royal accouterments neglected on the floor and his crown mixed up with the medicine bottles. Any physician who had attended him was gone now. Only a woman sat there, a dumpy, weeping little woman, tawdry in her velvet, unlovely in her sorrow.

"Madame Giotini," said Lebel.

She looked up. Somewhere, in some old forgotten book of legends she had seen a picture of a Soldier of Light. Her eyes shot wide and then she came forward, falling on her knees and gripping Ole Doc by the hand.

"You come too late," she said brokenly. "Too late! Poor, poor

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Will. He is dead. You have come too late but maybe you can save my people." She looked pleadingly up. "Say you will save my people?"

Ole Doc put her gently aside. He laid the girl down upon a nearby couch and approached the bed. He threw back the cover and gazed at Wilhelm Giotini.

Wilhelm Reiter Giotini, unblooded ruler of Fomalton, creator of empires and materializer of dreams, was far past any common succor. The fierce energy he had stored up in the streets of Earth as a gutter gammon had not served him at the last. The pride and fury of him had not staved off attack. The greatness of his mind, his beneficence to science, his bequests and scholarships had not added one single instant to his life. Here he lay, a sodden lump of dead flesh, inheritor of man's allotted ground, six-by-two-by-six just the same.

Ole Doc turned to Madame Giotini and Lebel. "Leave me."

They looked at the body and then at Ole Doc and they backed to the door. Ole Doc fastened them out and returned to the bed and stood there gazing at Giotini.

"Hippocrates!" he barked.

But there was no Hippocrates there and Ole Doc had to write his list and slide it through the door to a messenger. He went back to his thoughtful vigil by the dead.

When the girl stirred Ole Doc transferred his attention and approached the couch with a slight smile. She was, after all, a very pretty girl. He gave her a small white pill and a swallow from his flask and shortly she returned from the world of her nightmares and fixed him with pale wonder.

"It is all right," said Ole Doc. "I am a Soldier of Light."

She blinked, awed, and began to gather up her torn white satin. "But the disease. I caught the disease. I was dying!"

"You do not have a disease," said Ole Doc. "There is none."

This was so entirely contrary to her terror that she could not digest it and looked at him with eyes of a wondrous jade hue beseeching him to tell her what he meant.

"There is no disease, no poison," said Ole Doc. "I have no further clue. But in the absence of bacteria and drugs, it is necessary that you tell me what you can of today's occurrence."

"I . . . I was bridesmaid at my sister's wedding. It . . . . all of a sudden it began to get terrible. Everybody began to scream. I ran outside and fell down and there were dead people all over and I was afraid—" She caught herself back from some of the horror. "That's all I know."

Ole Doc smiled gently. "You can tell me more than that. Was anyone sick from the disease before today?"

"Oh yes. Over in the eastern quarter of the city. And on all the other planets. The disease kept spreading. There isn't anything left on Gerrybome and that had almost as many people as this world. But

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

nobody thought it would come here today. It was awful!" She shuddered and averted her face. "My sister, her husband . . . my mother . . . is anyone left alive?"

"You will have to face this bravely," said Ole Doc. "I do not think there is. I have not been here very long."

"Is it liable to strike again? Is that why you wear that helmet?"

Ole Doc had been wondering why she didn't have as pretty a voice as she had a body. He hurriedly unstrapped the helmet and laid it aside. She gazed at him earnestly. "Could you save my family?"

"Not very well," said Ole Doc. "You were the only one alive in that entire area that I could see. I even glanced in the church. I am sorry." He fumbled in his belt kit and came up with a cartridge for his hypo gun. He fitted it carefully. She was beginning to shudder again at the nightmare she had just experienced and paid no attention to what he was doing.

The gun, held close against her side, jerked and sent a heavy charge of neo-tetrascopolamine into her. She did not feel it but continued to cry for a little while. Then, blankness overspreading her face, she looked at him and at her surroundings.

"Who are you? Where am I?"

Ole Doc nodded with satisfaction. She had experienced amnesia for the past reaching back probably three or four days; she would not be able to recall any part of the terrible experience she had undergone.

"There was sickness," said Ole Doc, "and I brought you here to help me."

"You . . . you're a Soldier of Light!" she said, sitting up in astonishment. "A Soldier of Light! Here on Gasperand! I—" She saw her torn dress. "What—?"

"I brought you so fast your dress got torn," said Ole Doc.

"You promise you'll get back in time for my sister's wedding?"

"We'll do what we can," said Ole Doc. "Now you don't mind dead people do you?"

"Dead—?" It ended in a gasp as she saw the body on the bed.

"That is Wilhelm Giotini," said Ole Doc. "You heard he had died?"

"Oh, weeks ago! Weeks! But there he is—ugh!"

"Now, now. No time for weak stomachs, my dear. Fix up your dress and we'll do what we can for him."

"Do what— Why, bury him, of course!" She added hesitantly and a little afraid: "You *are* going to bury him?"

"No, my dear, I am afraid I am not."

There was a heavy creaking outside the door and a knock. Ole Doc unbarred it and let six guardsmen stagger in with a load of equipment. It astonished Ole Doc. He had never thought of that equipment as being heavy before since Hippocrates had always carried it so

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

lightly. And when they returned with a second load and stumbled with it, Ole Doc almost lost patience.

"Now get out before you break something!" he snapped.

He barred the door again and faced the unlovely thing on the bed. The girl's golden hair almost rose up in horror. "You're not going to—"

With a deep sigh which still had a great deal of compassion in it, Ole Doc showed her over to a window seat and let her sit there out of sight of the bed.

He opened the cases they had brought him and laid out a sparkling string of instruments and arctrodes, unpacked a portable generator, hooked up numerous wires, connected several condensers in series and plugged them to one end of a metal box, placing the generator at the other. Then he hefted a scalpel and a chisel and walked toward the head of the bed.

In the window seat the girl shuddered at the sounds she heard and twisted hard at the tassels of an embroidered cushion. She heard a curious sawing sound, surmised what it was and twisted so hard that the tassel came off. She nervously began to shred it, not daring to look over her shoulder. For a long time she felt ill and then became aware of a complete silence which had lasted many minutes. She was about to look when the generator took off with a snarling whine so much akin to the anger of a black panther in the local zoo that she nearly screamed with it in unison.

She could not keep away then. It sounded too bloodthirsty. But when she looked, Ole Doc was sitting on the edge of the bed looking interestedly at the metal box and outside of a deal of blood on the golden sheets, everything seemed perfectly human.

Cautiously she approached the Soldier. "Is . . . is he in there?"

Ole Doc looked up with a start. "Just his brain, my dear."

She hastily went back to the window seat. The cushion's tassels suffered horribly when the thought came to her that she might have been brought here as a part of this experiment, that she was to be something of a human sacrifice to science. And the more she thought about this possibility the more she believed it. Wilhelm Giotini was a great man; he had built up an entire civilization on five worlds which had hitherto been given to outlaws and casual wanderers; his vast energy had been sufficient to make cities grow in a matter of weeks and whole new industries from mine to finished product in a month or two. Who was she, Patricia Dore, to be weighed in the balance against an experiment involving Giotini? This Soldier was certain, absolutely certain to use her for his own ends.

It was a deep drop to the courtyard below and as she scouted her chances here she was startled to see that a group of guardsmen were

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

gathering alertly at the gate below. But there were other windows and, without moving fast enough to attract Ole Doc's attention, she made her way to the next. The drop was no better nor was there a balcony and here were more guardsmen being posted. There was something about the way they handled their weapons and looked at the house which gave her to understand that they intended something against this room.

"My dear," said Ole Doc, beckoning.

She looked wide-eyed at the guardsmen and then at Ole Doc in a between-two-fires hysteria of mind. She held herself to calmness finally, the legendary repute of the Soldier of Light winning, and came back to the bed.

"There are guardsmen all around us," she said, half as a promise of reprisal if anything happened to her.

Ole Doc paced to the window and looked out. He saw the troop gathered at the gate and in a burst of indignation, so obvious was their intent there, threw open the leaded pane and started to ask them what they meant.

Instantly a blaster carved a five foot section off the upper window. A piece of melted glass hit Ole Doc on the neck and he swore loud enough to melt the remaining sash. But he didn't just stop swearing. His right hand was traveling and at almost the instant that the burn struck, his blaster jolted and jolted hard.

Three guardsmen went down, slammed back against the gate by the force of fire, the last of them spinning around and around. Ole Doc never saw him fall. Ole Doc was back and under cover just as five more battle sticks went to work on the window. A big piece of ceiling scored up and curled brown to fall with a dusty crash an instant later.

Giotini evidently had known there would be moments like this. He had big, ray-proof shutters on each window which closed from inside. Ole Doc got them shut and barred and they grew hot to the touch as people below wasted ammunition on them.

Patricia Dore made nothing of this. It had occurred to her that perhaps these guards had set out to rescue her, for she had been fed a great deal of circulating library in her youth and she had an aberrated idea of just how much men would do for one woman. Just as she was getting a dramatic notion about aiding outside to get this Soldier who was obviously now no Soldier at all —for nobody ever fired on the U.M.S.—Ole Doc told her to get out of the way and sit down and she obeyed meekly.

Ole Doc looked at the metal case, noted the meter readings and then looked at the girl. She thought he was surveying her for the kill but she flattered herself. Ole Doc was simply trying to think and it is easier to think when one has a pretty object on which to fasten the eyes.

His own helmet, with its ship-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

connected radio, had been left in the generalissimo's car. No other communication of orthodox type was at hand. He grabbed up a bundle of sheets, revealing a rather gruesome sight, wadded them into a ball, saturated them with alcohol from his gear, opened a shutter partly and looked cautiously out. There was a summerhouse which the wad would just reach and he launched it. He was so quick that he had drawn and fired into it and shut the shield before he got fire back. A moment later, when he peered through the slits, he saw that the blankets were on fire and busily igniting the summerhouse. There were enough roses around there to make a very good smudge. But whether Hippocrates would see it and if he saw it whether or not he would know it for what it was, Ole Doc could not possibly guess.

He went back to the cabinet. A small meter at the top was *tick-tick ticking* in a beg to be valved off.

He threw the switches and the yowl of the dynamo stopped, making a sudden and oppressive silence in the room which hurt the girl's ears. Ole Doc peered into the view plate, looked grim and sat down on the naked bed with the cadaver.

He began to scribble on the white porcelain top of the box, making all manner of intricate mathematical combinations, thumbing them out and making them once more. He had figured all this once on a particularly boring trip between Center and Galaxy 12 and he had written it all down, neatly and with full shorthand explanation just where it should have been—on his cuff. And he had torn off the cuff and given it to Hippocrates. And Hippocrates had up and burned the whole lot of them. Ole Doc swore, forgetting the girl who held her ears and, hearing swearing, was sure now that this could be no real Soldier of Light, Savior of Mankind and pale and mournful patter of suffering little children.

A thundering was begun now on the outer door and Ole Doc had to get up and double bar that. Giotini had certainly been justified in making this room strong. Unless they blew up the whole palace, they weren't likely to get in.

He figured harder, getting his thumb entirely black with smudges of erasures, reworking the equations frantically.

Far off there began a mutter of heavy cannon and he jerked up his head listening intently. The weaker rattle he knew for the *Morgue's* battery. Hippocrates must be holding a pow-wow with them in his favorite way—and this made the chances of rescue from that quarter very, very slim.

"What's got into them people?" demanded Ole Doc of the metal box.

He erased once more and began again, making himself assume a very detached air. There was a sonic equation, a simple, embracing equation which, when he got it back again—

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The girl saw how hard he was working and decided she had an opportunity to slide out the door on the side which, so far, did not seem to be attacked. She raised the bar, touched the knob and instantly was engulfed in a swirl of guardsmen.

Ole Doc came up, took three steps across the bed and fired. The flare and flash of his blaster lit up the room like summer lightning and the screams which greeted it were a whole lot louder than thunder. One guardsman went down, sawed in half. Another tangled up with the first, stood in quivering shock and then rolled out of the way to let the man behind him take one full in the face.

The girl was curled up in terror just inside the door. One shot furrowed two inches above her head and another turned the knob which she still touched so hot that it burned her. Her dress began to smolder at the hem from a ricochet.

Ole Doc was still coming, still firing. He nailed his fourth and fifth men, liberally sprayed the hall, ducked a tongue of lightning and got the door shut by the expedient of burning a body which blocked it in half. He fixed the bar.

"Now where did you think you were going?" he demanded. "Here. Listen to this." And he turned on a big radio beside Giotini's bed, flipping the cog switches for stations. But there was only one on which was just then announcing. "Sometimes," said Ole Doc, "I almost think Hippocrates was right!"

Then he went back to the case and tried to pick up the threads of his computations. Suddenly he had it. It all came back and lay there in a scrawl looking at him.

It was the basic formula of cellular memory transmission in the neuro-sonic range, derived from the highest harmonic of nerve cell frequency and computable in this form to calculate the bracket of particular memory types as transmitted from sonic reception to audio-sonic recording cells. It was the retention frequency of audio memory.

As the nerve cell does not live long and as it is very liable to putrefaction, Ole Doc considered himself fortunate to find as much of Giotini's brain intact as he had.

He began to work with a disk recorder and mike, setting up a tangle of wires which would have done credit to a ham operator, back on Earth. The thunder was beginning at the front door again.

Vaguely, through his preoccupation filtered the radio behind him. ". . . the complete depopulation of this planet is a certainty. No slightest signal has come from there since ten this morning at which time the recording you have just heard was taken. There is no government bulletin on this. Dr. Glendenning of the generalissimo's staff states that the disease is so virulent that it is probably capable of a clean sweep of the Planet Hass. Gasperand then remains the only populated planet in this system and a rapid survey this morning showed that the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

continent of Vargo and our present location alone contain any surviving beings. It is momentarily expected—"

Ole Doc looked back to his work and worked even harder. The efforts at the door grew louder and more violent.

At long last, Ole Doc made a playback, nodded and beckoned to the girl. Patricia came with great reluctance.

"You should be interested in this," said Ole Doc. "It remarks an advance of science. I have taken Giotini's brain, preserved it and have taken from it its various memories in the audio range. Now if you will listen—"

She listened for about three seconds, her eyes saucer big with horror, and then she screamed loud enough to drown radio and battering and gunfire.

Ole Doc went to the door. "Hello out there!"

The thundering stopped.

"Hello out there," said Ole Doc. "It is necessary that I speak with Lebel. You're not going to get in here and if you keep at this too long, my relief ship will come down on you with enough guns to blow the whole planet out of orbit. Let me speak to Lebel!"

There was a very long pause and then Lebel was heard on the other side of the door. "Well? Are you going to come out and give yourself up?"

"No," said Ole Doc, "but I have built a set to communicate with my base. Unless you parley you will be a hunted man through all the stars. I have something of considerable interest to you."

"I doubt it," said Lebel.

"Come here," said Ole Doc to the girl. "Tell him what you have seen and heard."

"It's horrible!" she said. "I won't!"

"Oh yes you will!" said Ole Doc. "Tell him."

"He cut out Giotini's brain!" she cried. "He put it in a machine and he made it talk and he's got records in here of him talking! It's horrible!"

Her weeping was the only sound for several, long moments. Then Lebel, with a strangely constricted throat, said, "You . . . you made a dead man talk?"

"Stay right there," said Ole Doc, "and you'll hear about it." He brought up his recorder and promptly turned it on full blast.

"My spies tell me—I have not long to live because Lebel has plans against me. I should never have trusted him. They say he is going to cause the death of everyone in this entire system. I have watched him lately. It seems certain to me that assassination is near. I am going to take what precautions I can but he is a devil. I should never have hired him. He is plotting to overthrow everything I have done—"

"Want to hear more?" said Ole Doc.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

It was very silent on the other side of the door. The bar hinges were very well oiled. The record kept on going and suddenly Ole Doc jerked the panel in and as quickly shut it again. The bars clanged in place.

Lebel sprawled ignominiously on the floor and Ole Doc's heel was unkind in the side of his neck. He was a big man but a stamp like that knocks the largest flat and, sometimes, kills them quite dead.

Ole Doc leaned over and knocked Lebel out with his gun butt before that unworthy could stir.

When Lebel tried to sit up he was so swathed with satin strips for binding that he could not stir. He was also choking on a gag. He felt uncomfortable.

"Now," said Ole Doc with a gruesome grin, "let's get down to cases. There is only one thing which could cause death in the fashion I have seen today and that is by *extreme fear*. Do you follow me?"

Lebel glugged and struggled. Ole Doc thoughtfully fingered the edge of a scalpel and cut off a neat lock of Lebel's mustache.

"You are either flying over the planets or ground patrolling with some instrument to cause that fear," said Ole Doc. "And that instrument is obvious to me. Why is it? Because the helmet you insisted I use had sound filters in it alive only in the upper range. Therefore it is a sonic weapon. It killed only a limited number of the people it was directed at, therefore it cannot be

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

a common supersonic weapon. That makes it *subsonic,* something new and impossible to trace as such.

"I don't have to examine your broadcaster to know that it must be a ten to thirteen cycle note, below the range of human hearing. Sensing something which they could not locate or define, people were terrified by it, for nothing frightens like the unknown. It probably has a strength of about a hundred and fifty decibels, stronger would literally tear their eardrums and brains lose.

"It was on when I found that girl because enough of it got through to your guards and yourself to make you extremely nervous, even if you did know what it was, and you fell back to your basic fear of being assassinated. So you gave your weapon away.

"Glandular disruption in your targets often caused heart failure, adrenal poisoning and other fatal reactions all very solidly from fear, and there is no inquest when people are merely scared to death. The larger percentage of the populace is deserting or has deserted this system by means of passenger ships. You have probably helped finance that exodus as a public benefactor while your staff doctors ran about yelling news of a 'disease'."

Lebel glugged and struggled, angry.

"Now as to why," said Ole Doc, slowly passing the scalpel a reluctant inch away from Lebel's jugular vein, "that is very, very simple. You want to knock off every living person or drive him away from the planets of this system. That will leave you and your guards alone in possession. You heard that the U.M.S. was deeded all the revenue of Fomalton. You discovered that *after* you had murdered Giotini. Any government you could fight. You were afraid to fight us in any but the strictly legal field.

"You depended upon the law of salvage which says that 'any planet deserted by her populace shall become an object of salvage to whomever shall take possession.' You thought you would have us there. You would own a rich planetary system by your own galactic title, breaking Giotini's deeds of ownership and therefore his will.

"You got suspicious of me when you saw the law books in my kit. You were frightened by your own weapon which was even then turned on somewhere in the vicinity and you acted irrationally, scared by self-induced fear. Then you got to the palace and got calm and started to play the game out once more. But advisers got the better of you, probably because they were newly in from areas where your fine terror weapon was working and you became unbalanced enough to actually tackle a Soldier of Light.

"A long time ago a fellow you wouldn't know named Shakespeare talked about 'an engineer being hoist by his own petard.' You have somebody on your staff who has done that, to himself and to you. I heard mention of a 'Dr.' Glenden-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ning who is in your pay. He is probably no doctor but a renegade sound engineer. But let that pass. When I take off this gag you are going to sing out to cease all activity and begin instant rescue of anyone left alive anywhere in this system. Understand?"

Lebel mocked him with his eyes. Ole Doc shrugged and went for a hypo needle, dipped it in a bottle and came back.

Holding up the dripping point, very shiny and sharp, Ole Doc said, "This contains poison. It is a fine poison in that it deprives a man of his reason gradually. There is no known antidote, save one I carry."

He jabbed the needle through Lebel's pants and drove the firey liquid home. Lebel leaped and nearly broke the point off.

Ole Doc stood back with satisfaction. He went and filled the needle with another fluid: "This is the antidote. If not administered in ten minutes, you will be beyond all recovery."

With this cheerful news, Ole Doc went over to the window, humming a grim tune and stood there looking out a slit, needle upright and dripping.

Heels banging the floor brought him back. "Why," he said, "only one minute has gone by! Are you sure you want to give the order?"

Agony was registered on Lebel's face. Ole Doc removed the gag.

"Guard!" howled Lebel. "This madman will kill me! Recall all planes. Cease operations! Stop the agents! Rescue whoever you can! Quick, quick!"

There was an instant's hesitation outside the door but Lebel drove them to it again with renewed orders. "He knows all about it. The patrols from Hub City will come! Obey me!"

Bootbeats went away from there then and Ole Doc could relax. He could hear shouts outside the palace and turmoil within. They were carrying out orders but they were also running for their lives. They had played for their shares in a great empire and they had failed.

Ole Doc unloosed Lebel's bonds while the generalissimo regarded him incredulously.

"Go ahead," said Ole Doc, "get up. I am not sure what is going to happen to you finally, not sure at all. But right now I am going to pay back something of what the people in these worlds have suffered. You're a fine, big fighter. You weren't shot with anything more serious than yellow fever vaccine, the burningest shot I know. Now put up your fists!"

There was a renewed turmoil outside the palace gates. It was occasioned by a big, golden ship clearly marked with the ray rods of pharmacy setting itself down with a smoking *wham* directly in the street. The vessel was charred here and there but serviceable still and about the maddest gypsum-metabolism slave in several galaxies pressed the grips on the main battery.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The palace gates caved in, the metal curling like matches turned to charcoal. The palace doors sizzled down into piles of slag and puddles of brass. A luckless company of guardsmen trying to get away from there rounded the turret at the court-yard's end, got scorched by the flames and heat and made it away with the diverted guns taking their heels off as they ran.

Then Hippocrates, girded around like a pirate and bristling with rage, stepped down from the air lock and marched across the yard, walking tough enough to crack paving blocks. He jumped the glowing pools and stalked with horrible appetite into the palace proper.

A guard, running away with a handful of jewelry without knowing of any place to run was suddenly hauled up by his belts, suspended two feet off the floor and banged into a pillar. The jewelry fell in a bright shower and rolled away. Hippocrates banged him again.

"Where is my master?" roared Hippocrates.

The guard didn't answer fast enough, probably because he did not understand in the least what master was meant and was promptly banged so hard that he went into some other realm, there to serve other men, no doubt. Hippocrates dropped him. He grabbed at a second and missed.

Then an ominous sound came to him, the thud of bodies in combat and the breaking of furniture and he plowed his way through a milling throng like a hot knife into butter and found himself outside the Giotini suite.

The door was barred. This was no problem. He blazed away at it at a range no human could have stood and had himself a hole in it in a thrice. He fished one hand through, found a bar and slammed the panels back.

There he stopped.

The bloodiest, messiest man it had ever been his fate to see was trying to crawl up from the floor. He was dripping blood from massive contusions. He was dripping rags. He was blind with fair blows and staggering on the borders of beyond. His remaining teeth were set behind lips so puffed that they looked like pillows.

And Ole Doc, standing there with his broken fists still ready, said: "Get up! Get up and fight! Get up and fight!" But Ole Doc wasn't even looking at his adversary. He couldn't see him.

Hippocrates reversed a blaster and was about to knock Lebel out with one smart blow when Lebel fell of his own accord and lay completely still.

Half an hour later, when Hippocrates had his master well healed up, the little slave turned to gather the remains of the equipment for a return to the ship. He picked up several items, rendered more or less secondhand by the combat and then laid them down, puzzled.

"What is all this, master?"

Ole Doc ranged his puffy eyes

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

over the equipment. "Busted experiment," he said.

"What experiment, master?"

"That condemned cuff note!" said Ole Doc, a little peevish. "It sounded so good when I was working on it fifty or sixty years ago. If you could just calculate the harmonic of memory retention, you could listen to whatever a dead man had been told. But," he added with a sigh, "it doesn't work."

"But what's this record then."

"Fake. Bait to get Lebel to the door."

"You want this junk?"

"Let it lie," said Ole Doc. "There's a silly girl around here we'll have to gather up and we've got a lot of psychotherapy to attend to where we can find anyone left alive and I've got a dispatch to send Center to tell them the state of this endowment. We've got to get busy."

"What about this?" said Hippocrates, touching Lebel with a toe.

"That?" said Ole Doc. "Well, I really don't know yet. I think I'll try him for the next couple months from time to time and then sentence him to death and then reprieve him."

"Reprieve?" gaped Hippocrates.

"So that the survivors can try him," said Ole Doc. "Then I'll pardon him and send him to Hub City to be tried."

"Drive him mad," said Hippocrates practically.

Ole Doc swished his cloak over his shoulder. "Let's get out and get busy."

Hippocrates bounced to the door and cleared it importantly.

But Ole Doc didn't pass on through. "Hippocrates, why on earth did you burn up those cuffs?"

"They didn't seem very important to me when I read," said Hippocrates, hang-dog instantly.

Ole Doc gaped. "When you read . . . you mean you read all of them?"

"Yes, master."

Ole Doc laughed suddenly and laughed loudly. "If you read them, you remember them, then!"

"Yes, master!"

"But why didn't you say so?"

"I thought you just mad because I not file right. You didn't ask me."

Ole Doc laughed again. "Well, no loss at all then. *Some* of the notes may work despite this fiasco today. Hippocrates, when I bought you at that auction a few hundred years back, I think I made the soundest investment of my life. Let's go."

Hippocrates stared. He almost staggered. And then he grew at least another half meter in height. He went out into the corridor, breasting a pleading, hopeful, begging throng, carving a wide swathe through them and crying out in a voice which cracked chips from the pillars in the place, "Make way! Make way for Ole Doc Methuselah, Soldier of Light, knight of the U.M.S. and benefactor of mankind! Make way! Make way!"

THE END

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ENTITY

BY POUL ANDERSON AND JOHN GERGEN

Like B'rer Rabbit's Li'l Tar Baby, it just sat there, an enigmatic, unresponsive, weightless, immovable, something made of nothing—and passively defied them.

Illustrated by Brush

"We'd better all have a look at it," said Captain Nielsen into his helmet phone. "There doesn't seem to be any life at all here, and this is the only real oddity. But it frankly baffles me."

He stood in the semidarkness waiting for his crewmen. They were scattered through the abandoned city exploring for signs of the inhabitants of a thousand—a million?—years past. But so far there had been only the empty shells of buildings, dark and blind under the enormous heavens. Whoever or whatever had built the city had made an orderly withdrawal and left little behind.

Ramachandra, the physicist-chemist, arrived first, swooping on his spacesuit's gravitic impellors through one of the gaping holes in the wall. The keen spatial starlight limned his bulky form in cold radiance as he entered. He stood for a moment letting his vision adjust to the murky room after the dazzling sun outside.

"What is it?" he asked.

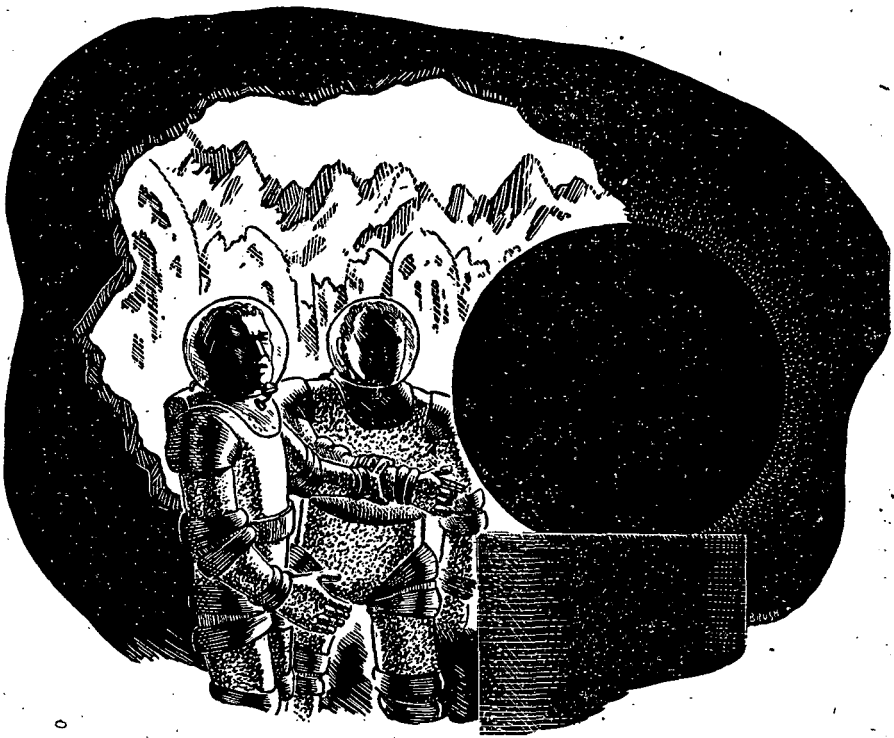
"This gadget or idol or piece of furniture or whatever," Nielsen gestured. "So far the remains of the city have indicated an almost depressing functionalism, as you might expect in a colony—"

"Colony?"

"Certainly. A planet this small must have been airless from the very first. But then any native life—of which so far we have found not even fossil traces—would be nonbreathing. These structures are gutted, but they were definitely of space-tight construction, with air locks and the rest. Anyway, what is this gizmo?"

Ramachandra peered at the thing which occupied the center of the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



room. It was simple enough, a black sphere on a pedestal. Only—

Never had he seen anything quite so black!

His eyes seemed to sink into that bottomless dark circle. It took an almost physical effort to wrench his concentration lose and say: "It's peculiar, but I suppose there's no telling what a completely foreign science will produce. Look at that of Alpha Centauri, for instance. And then when you get into the nonrational aspects of a civilization, like its objects of worship, reason quits altogether."

"Not so." Nielsen, who was captain in his capacity of psychotecnologist rather than vice versa, shook his head. "The laws of mentality are quite definite, and in spite of large superficial differences between intelligent races they must follow the same basics in order to be intelligent. Since we have found no trace of life anywhere in this system, it is almost certain that the colonists here came from another star. But it is reasonable that a people advanced enough to colonize between the stars would still have josses and mascots? No, I'm convinced it must be part of some device, and the thing that bothers me is, what?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Who knows? There are so many ways of doing the same thing that this might be part of anything you care to name. Really, Robert, I don't see anything remarkable about it except its color."

"No?" Nielsen smiled thinly. "Go closer. Try to touch it."

Ramachandra approached the sphere, automatically estimating its dimensions. The pedestal seemed to be some ordinary space-concrete, about one half meter thick and one and a half high. The sphere, about eighty centimeters in diameter, rested in a cuplike depression on the top of the pillar. He reached out a hand—and jerked it back, gasping. Through the insulated glove and the heating coils that fang of cold had bitten. His fingers tingled with pain.

Nielsen said: "You're the physicist. Tell me how an object can be so much colder than its surroundings that the best spacesuits made on Earth won't insulate against it."

"Unreasonable—" Ramachandra stopped, then resumed slowly: "I suppose it's an atomic-powered refrigerator of some kind. But that really doesn't make sense, because even at absolute zero our spacesuits should protect us. It's as if the sphere sucked heat from—" His voice trailed off.

The other men, save for three left on watch at the ship—a precaution that seemed unnecessary in the death and silence of this world—had arrived by now. Seven human beings, so far from Sol that it was lost to sight, clustered around the black sphere.

Morley, the planetographer, flashed his light on the object. The puddle of undiffused light he expected did not appear on its surface. "Perfect absorber," he muttered.

"Could I have a look over here?" asked Schumacher, one of the three general assistants in a crew otherwise composed of specialists. He held out his hand and Morley gave him the flashlight.

"What did you do to it?" he asked, looking at the dim red glow.

"Eh?" Morley took the light back. "Looks burned out—but I put new cells in a week ago, and Phillips cells just don't wear out that fast."

"Let me see," said Ramachandra quickly. He took a small meter from his capacious bag and deftly, despite the clumsy gloves, took a reading. "Yes, those cells are dead all right."

"Is that thing safe?" Duncan, the biologist, waved the men back. He had seen too many deaths on planets never meant for man.

"Should be, if it only absorbs light," said Ramachandra. "But I never heard of anything like it before. How could a perfect absorber be that cold?"

"It absorbs more than light," pointed out Morley. "That battery went dead as if it had been shorted."

"Um-m-m . . . yes." Ramachandra took another flashlight. "Curious effect. Let's see—"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

He pointed the lens at one of the highly polished metal sleeves of his spacesuit, letting the light reflect onto the sphere. This time there was no evident battery drain.

"Apparently it absorbs all directly impinging energy," he said. "And if a photon beam with an electrical source is focused on it, there is in effect a short circuit. Of course, that's too general a statement to be made without further tests, but as a guess based on the universal principles of action and reaction it doesn't seem too unreasonable."

"As reasonable as anything connected with this dingus," added Schumacher wryly.

Nielsen raised a hand. "We're supposed to be getting a sketchy pre-exploration idea of what is to be found in this part of the Galaxy," he said, "but I think this is important enough to justify study. Whatever civilization once existed here may have known things we don't even suspect, simply through its science having taken a different path from ours—you all know the case of Centaurians as one example. I'm no physical scientist, but if this wingding is new to Krishni it's *new*. I'll turn you boys loose on it."

He paused, then added soberly: "Only for the love of Cosmos and the hope of seeing Earth again, don't take any chances. Our crew is too small already—well, it can't be helped when an expedition takes several years, but that's the way it is. We're each so specialized as to be indispensable. And we're a long way from home."

He turned and walked out into the bitter sunlight.

The city was not large. A cluster of domes gaping open to the sky, it huddled on a valley floor with uneroded mountains shouldering brutally upward from the near horizon on all sides. Remnants of space docks and what seemed to be warehouses were in evidence, and a few scattered pieces of tools, machinery, and the like. But there was nothing really indicative, and everything had suffered from uncounted millennia of meteor bombardment and temperature extremes.

"The size and shape of artifacts indicate a race roughly humanoid, perhaps somewhat taller," said Duncan. "That's really about all I can say. They left almost nothing portable behind, they even removed airlock valves and thermostatic units."

"Are there any signs of colonization elsewhere in this system?" asked Ivanoff, of the general-assistant staff.

"No," said the mate, Chai-Chou. "Of course, you can't tell for sure, but it seems a fairly safe bet. This sun only has five planets, all small and barren like this, and we checked them all as you know. If our metal detectors found this city for us, they should certainly have located any other of comparable size."

"Anyway," said Nielsen, "a civilization colonizing a system as harsh

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

as this one would hardly care to establish more than one outpost. I suppose the city was a sort of combined refueling station, mining town—there are signs of working in the mountains—and so on. Maybe it was abandoned because of something, say a new fueling technique, that made it obsolete and uneconomic. Maybe the civilization still exists."

"I doubt it," said Duncan. "We discovered the means of interstellar travel only a few decades ago and have already got this far. If they had had the hyperdrive that far back, they would have visited the Sol sector by now."

He looked skyward. The glaring F3 sun had set and the valley lay wrapped in night. Above its mountains, the stars blazed in cruel brilliance, unfamiliar constellations spilling across the sky. "I wonder where they were from—" he murmured.

"Who knows?" Nielsen shrugged. "We came to this star only as part of a random pattern of search. It might take millions of years, even systematically hunting, to find one single system in the Galaxy, and if we found it we might not even know we had. Space is just too big."

He felt again the weariness of his years on the long hunt. Civilization could not expand blindly into the stars. Someone had to go ahead of even the explorers and give a vague idea of what to expect. Only Earth's finest, the most ultimately sane of all mankind, could endure being cooped in a metal bubble floating through darkness and void for years on end, and even they sometimes broke.

Olga, Olga, it's a long way home to Earth and to you, a long way in space and a longer way in time. And will you still be waiting, Olga, dearest of all, when I come home?

"Something made the colonists leave this system," he said heavily. "Maybe the answer is in that sphere. Let's see what the boys have found out."

He entered the central building. A lighting system had been rigged which threw an indirect but sufficient illumination on the sphere. It lay on its pedestal, a black enigma surrounded by instruments and technicians.

"Well, you've had a couple of days now, Krishni," said Nielsen. "And I might say that you're on the spot. Because none of us have been able to dig up one piece of real information."

"Well, we have a little, but it's mostly negative," said the scientist. "After some trouble, we got the precise dimensions—"

"How? I should think your calipers would shrink in the cold."

"They do, but we measured the rate of shrinkage, did some fancy extrapolation and other juggling, and came up with a fairly accurate answer. We also know that the surface can't be chipped by any available means and is inert to any reagents we have—some of which are pretty fierce. The base pedestal is

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

just an ordinary concrete post. What the sphere is, nobody knows."

"X rays? Sonic probes?"

"It absorbs every sort of energy that falls on it. We blew an air jet at it, and the air froze solid as it struck, all molecular motion-energy sucked out. When we get careless and let a beam of anything fall directly on it . . . well, you saw what happened to that flashlight. Why continue the sad tale?" Ramachandra smiled wryly. "The thing is thermodynamically impossible. It absorbs everything and radiates nothing. I honestly believe it's at absolute zero, though our instruments acquire too much error for me to tell with certainty."

The captain scowled. "There must be some way to get at it. We can't hang around here forever."

"We won't have to," said Ramachandra. "The sphere isn't fastened to its pedestal in any way, so we'll just take it to the ship and I can work on it at my leisure."

"Good," muttered Schumacher. "This planet gives me the creeps—it's *dead*."

He and the third assistant, Rosenstein, left the building and went over to the ship. Her bright torpedo form loomed over the nighted city, challenging the stars. The Afro-Venusian chief engineer, Cetewayo, hailed them as they entered his place of work. "What goes?" he asked.

"It's that thing they found in the city," said Rosenstein. "The skipper wants to bring it aboard so we can get under way again."

"Just what is that gadget, anyway?" inquired Cetewayo. Themistocles and I have been too busy repairing that burned-out fuel injector to know just what was going on. I heard talk of an impenetrable sphere—"

"That's about all anyone knows," said Schumacher. "But it's too cold to touch, so we want the levi."

Cetewayo helped them load the portable levitator onto its gravity impellors. They floated it out with some effort, for though the applied gravitic force neutralized the weight of the grappling machine the inertial mass was still there.

When the machine was fixed in front of the sphere, Rosenstein manipulated its controls and closed the grapnel jaws. Had there been air, the metal would have screamed as it touched the ultimately cold object. Only a few special alloys could endure such conditions, and Rosenstein didn't want to overstrain the molecules. He threw the lifting switch.

The motor spun. The levitator seemed almost to arch its back and dig its gravity beams into the floor as it sought to lift the sphere. Rosenstein scowled in puzzlement and raised the power another notch. By the time he had applied several tons' force the motor was too hot to run and the sphere had not budged.

"Never mind," said Ramachandra. "I have a notion that nothing short

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

of an infinite force will ever raise that beast."

"How so?" asked Duncan. "Work isn't radiation, is it?"

"No. But the sphere gobbles *all* sorts of energy, literally all, including any hypothetical energy of work against gravitation. Actually, of course, no work has really been done on the sphere. The levi motor got hot from an infinite overload." Seeing incomprehension in some faces, he said: "Well, imagine the machine doing a very small amount of work, an infinitesimal amount, on the sphere. The sphere promptly shunts that energy off into the same omnivorous region where all other incident energy goes—and so, of course, the sphere doesn't move."

"Never mind the details," said Nielsen. "The point is that we can't stir the brute. So what will we do with it?"

"I'm for busting it wide open and seeing what makes it tick," proposed Chai-Chou. "If we can't do anything with it, no other ship that could practicably be sent from Earth will be able to. So if we ruin it there's no real loss."

"The attitude is not entirely correct," said Ramachandra, "but I agree. The ship's rocket arc welders should be able to do the job—if they can't melt it open, we might as well quit. The thing must have an upper limit to its energy-gobbling capacity."

"All right," said Nielsen. "I'll put some men on it."

Cetewayo handled the huge arc welders. His assistant Kiarios—the two of them, with occasional help from the three general technicians, comprised all the help the robot-run *Diogenes* needed—remained alone in the ship to tend the power source. Thus it was that he heard the whine.

It rose from a low-pitched hum to an unbearably high squeal within a few seconds, and he'd had enough experience with generators to know what a runaway sounded like. Cursing, he dashed for them, knowing already that he would be too late. He was.

The room was not a pretty sight. A generator on the loose literally tears itself to pieces; and the prospect of rewinding the whole batch made Kiarios slightly sick. A few of the plates here and there had buckled in the middle, and smoke still rose from the scorched insulation inside. He dreaded the thought of dismantling the covers and seeing the twisted mess.

He was still cursing when Nielsen came in on the run. The helmet phones were set to a common frequency, and it had been plain that the second engineer was in trouble. Simultaneously the captain was listening to some potent remarks as Cetewayo's arc welders died.

He threw back his helmet as he entered the engine room and removed his earphones, cutting off the Venusian's words. His face was grim as he asked. "What's the matter, Themistocles?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Wordlessly, Kiarios gestured.

"Oh, *no*—". Nielsen fought for control. His voice came shakily: "What's the cause of this? If it has anything to do with that sphere, I'll really blow my top."

"You're right, I'm afraid," said Kiarios.

The air for some seconds was made a deep rich blue. Finally Nielsen got out in a strangled tone: "How did it happen?"

"I don't know. We powered the rocket arc welders with the generators; they're the only power source husky enough—"

"Say no more," Nielsen threw up his hands and stalked out of the room. Kiarios put on a spacesuit and followed him.

As they went by the radionic lab, Morley hailed indignantly, "What sort of fumblydiddles are going on, anyway? Who has burned out my instrument?"

"Eh?" Nielsen stopped, looking dully at the man. Morley gestured at a disorderly heap of apparatus on the bench before him.

"I was trying this out," said the planetographer. "Wasn't much I could do to help about the sphere, and I took the chance to do a little work on this pet project of mine."

Nielsen nodded vaguely, not really listening. He knew Morley was trying to perfect a device to graph stellar energy output in the low frequencies, anomalous for some types of stars. He heard the voice, remote from his own thoughts: "I was trying it out and all at once, just like that—it burned out. Three coils and a good amplifier tube burned out, fusion, completely gone—"

"Never mind," said Nielsen. "We have something else to think about. All crewmen meet by the sphere."

He felt a loneliness as he stood facing the men. They were more than his subordinates, they were his friends. Only those with the highest congeniality indexes could ever have survived a survey trip, so rank and formal discipline were unnecessary and unknown. The captain was only the co-ordinator of a band of specialists.

Still—the captain had the ultimate responsibility. And an admission of failure in that obligation was not only humiliating, it could be disastrous to a morale which was the only real shield they had against the outer universe.

"It was my fault," he said in a low and toneless voice. "This is an unlucky set of circumstances, but if I'd been alert we could have forestalled the present situation. As it happened, Matthew and Themistocles had been so busy with a repair job that they hadn't really heard what the sphere did, so they saw no danger in running the arcs off the ship's generators. And those of us who did know were either arguing too much about it or too preoccupied otherwise to stop to think just what the arc power supply was. Certainly I should have done so. As it was, when the arc was turned on the sphere, it drank all

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the applied energy and in effect shorted the generators."

"You're no more to blame than the rest of us, skipper," said Rosenstein awkwardly. "Less, really, because no one else has to think of everything."

"Thinking of everything is my business," said Nielsen bitterly.

"No real harm done," put in Cetewayo. "It'll be hard and tiresome, but we can repair the generators."

"If that sphere doesn't pull another trick," added Schumacher.

"It does seem to be deliberately opposing us—" murmured Chai-Chou.

Duncan snapped his head up in surprise. The others noticed the movement and a pregnant silence descended.

The biologist said between his teeth: "Deliberately opposing us—? Life takes some fantastic forms throughout the universe." His eyes steadied on Nielsen. *"Captain, is that sphere alive?"*

Their heads turned slowly, as if dragged by some irresistible force, to the thing. It lay blacker than outer space, a pit of enigma confronting them with a blind negation which was night and mystery and horror. The cold it breathed forth seemed to touch their hearts and run eerily down their spines, a reflex of primitive fear of the unknown carried from Earth's primeval forests out to the far stars.

Morley said: "Nonsense! It has no characteritic of life—"

"Hasn't it?" Duncan stared at the sphere as if hypnotized. "How do we know what characteristics it really has? For that matter, how do we know what universal characteristics life has—if any?" His eyes turned slowly to Ramanchandra. "You said this thing was a thermodynamic impossibility. Well, in a way any living organism is, since it brings order out of molecular chaos—it's even been shown that the chemistry of animate matter actually involves a net descrease of entropy. If this . . . thing . . . is an entity, maybe an intelligent one—"

"It can't be," protested Nielsen. "It has shown no reaction associated with intelligence—"

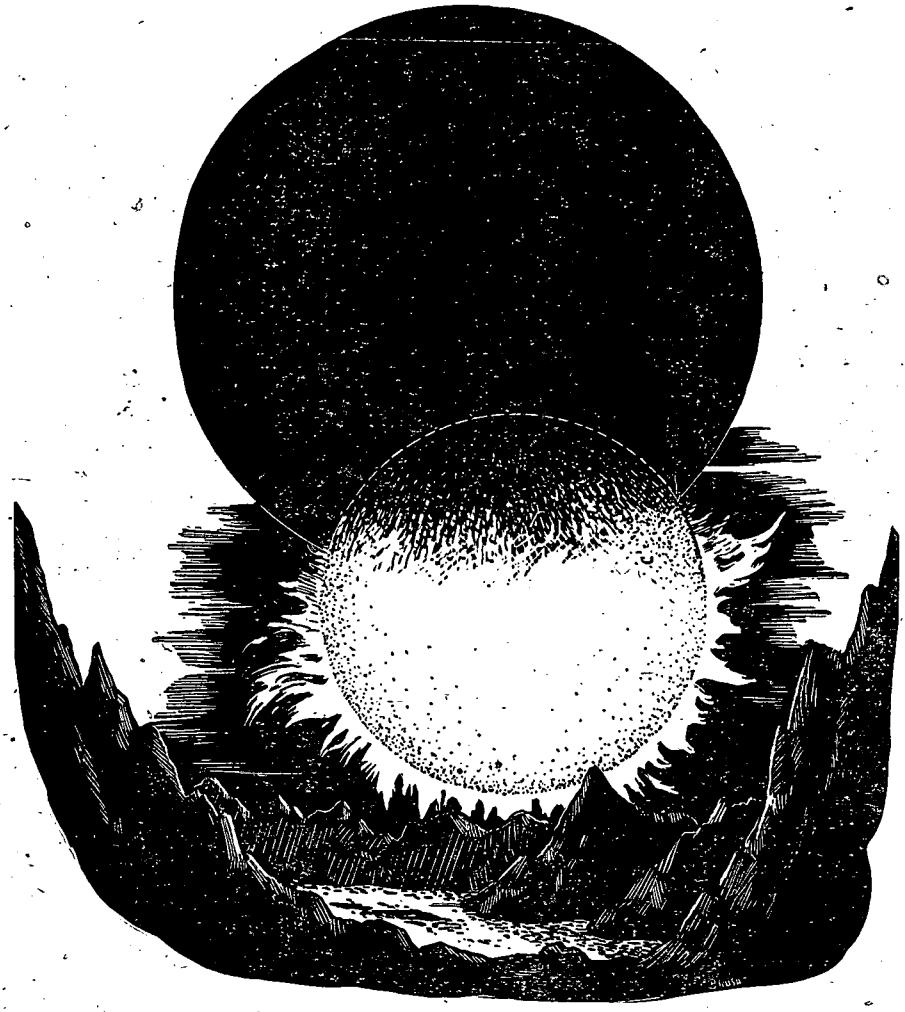
"With our kind of intelligence," corrected Duncan softly. "This sphere is certainly not life as we know it—but that's a limited term anyway. If it is alive . . . if it came, say, from elsewhere . . . well, *something* must have expelled the builders from their city!"

Chai-Chou shook his head like a wounded animal. "I might have expected someone without a degree in biology to advance that," he said, "but you, of all people—!"

"And why not?" challenged Duncan. "I've seen enough strange turns and twists of life-forms, and learned of still more, so that I don't feel it's safe to dogmatize about any of them. What do we really *know?*"

"Very little," admitted Nielsen. "However, science must proceed not on certain hypotheses, because there are no such, but on the most reason-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



able. And postulation of something so utterly different from anything ever observed elsewhere is not reasonable."

Duncan shrugged. "I don't insist on my notion. You explain the facts another way, then."

Ramachandra scowled. "That energy must go somewhere," he said. "I'm almost willing to admit you're right. Some weird form of life, feeding directly on energy and storing it in some peculiar manner—"

He paced rapidly, around and around the sphere. "Just imagine that, for the sake of argument," he

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

muttered. "Suppose there are energy-eating entities, maybe floating in space itself. They might be drawn to a city by its radiations, settle down, and paralyze the place by draining all energy sources. If they were vulnerable to any weapons the city dwellers might be able to apply without destroying the city—why, then, nothing would be left but to abandon the site." His voice rose: "And when no energy source was left, the sphere might go into a sort of spore state till we came along and gave it fresh nourishment!"

The men shrank back from the object in a pure reflex. It lay there, unmoving, black against the lights of the room.

Nielsen's voice was thick: "But—in that case it wouldn't bother with cities. It would go to energy sources immeasurably greater—to suns!"

"Maybe it doesn't like sunlight. Maybe . . . oh, say ionized particles irritate it, or it doesn't like the color of this particular sun, or it just wanted to sleep for a few thousand years and is ready to come outside now."

"Ready to come out—" mumbled Ivanoff. The thought ran on in his mind: *Ready to come out and eat the sun, and all the world will grow dark.*

"It's fantastic," said Nielsen grayly. "But . . . well . . . I still think the hypothesis is unreasonable and improbable. Still, we have no choice but to act on it."

The men looked at him in puzzlement. He went on: "Here is a phenomenon completely new to science, so new that on the surface it looks impossible. Whatever it is, it has lain here harmlessly for a long time and would presumably have lain here indefinitely—but we came along.

"We've tampered with it. We've swollen it with energy. We have, if it really is alive, made it aware of us. I repeat my belief that the thing is simply a scientific oddity, but we dare not assume that. There is always the chance that it really is alive—and that it may decide to do to the present civilization whatever it did to the past one."

His face was taut in the weird illumination of undiffused fluorolight. "In short," he finished, "until we have either captured, destroyed, or understood this entity, we dare not leave this planet."

The sun rose, and set, and rose again. The constellations wheeled tremendously over the vast dark of the sky. The little dead planet spun rapidly about its obscure sun, a dust-speck lost somewhere in the fringe of the universe.

The incandescent glare of sunlight or the choking shadows of night, the swoop of temperature between insane extremes, the noiseless glare of sparks and swirl of dust when meteorites struck, were the only evident changes. Mountains ringed in the rocky valley, walls of shadow and silence. Always there was the silence and the motionlessness and the waiting. It was not

LICENSED TO UNZ.ORG—
ELECTRONIC REPRODUCTION PROHIBITED

good for men who remembered green planets and blue skies and the warm yellow glow of lighted windows.

It was, thought Nielsen bleakly, just as well that the generators had burned out. The work of repair was heartbreaking, but it gave those of the crew not occupied with the sphere something to do. Sweating and cursing was better than thinking of the thing that squatted in the dead city.

There seemed to be no penetration of the sheer negativeness which was the sphere. It made no response to any attempt at communication, and Duncan tried everything from wig-wagging to a hypothetical telepathy. No instrument could lift it, or look beyond the blackness of its surface. Any energy source focused on it was savagely drained, otherwise there was no sign of activity.

"It . . . why not admit it, the thing scares me," said Ramachandra. "It scares all of us."

"Certainly." Nielsen bit out the words. "A tendency toward xenophobia is inherent in humanity, probably a hangover from prehuman ancestors who had reason to fear everything strange. The way to overcome that fear, as man has finally learned, is to face the unknown boldly and come to understand it—thereafter, of course, it is no longer unknown. But when we are faced with something that resists all our efforts at understanding, the initial slight fear is bound to grow."

"You make it sound reasonable."

"It is." Nielsen's haggard face twisted in a smile. "Only knowing what makes us tick psychologically doesn't really change anything. Knowing why we fear the unknown will alleviate the fear only temporarily. If the problem remains insoluble . . . well, that's a good way to go insane. Or else take the refuge of deliberately forgetting that there ever was a problem—which, if Duncan is right, may be just what the sphere wants!"

He took a restless turn about the cabin. "Man isn't really meant for space," he said. "It's too unlike his whole evolutionary heritage. Oh, he can learn, most spacemen do, but the incidence of neurosis and insanity is high. You know, Krishni, I think we're all worn down by too long a time in completely strange environments. We're teetering on the edge of neurosis. I think this whole problem is basically of childish simplicity, but with our mental efficiency at its present low ebb we've got onto a wrong track and now get farther and farther from the solution."

"Not farther." Ramachandra smiled grimly. "Just—nowhere."

"If we could solve the problem, it would be a terrific moral shot in the arm. But if we can't—well, Earth is a long and dangerous way off, and I hate to think what might happen to us before we ever get there."

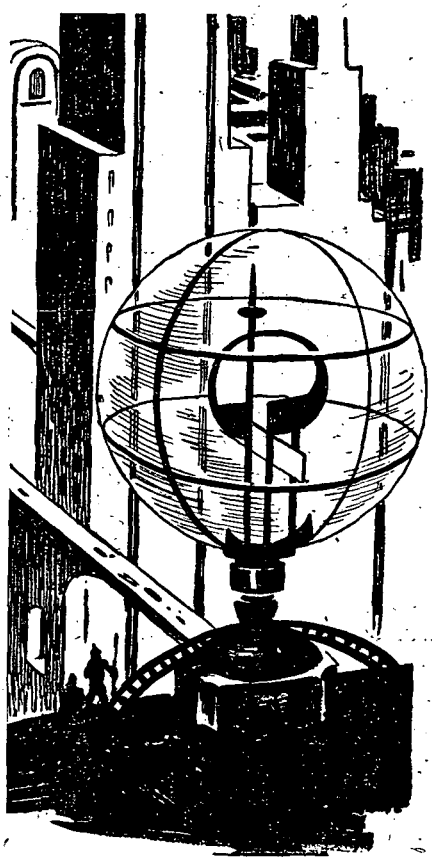
"Aren't you exaggerating?"

"Maybe. Maybe not." Nielsen passed a hand over his weary eyes.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"I think we're all exaggerating the trouble, like a scientist who starts out with a too complicated hypothesis and has to build ever more elaborate and fantastic theories to explain facts which are really very simple." He stopped his pacing. "As captain and psychologist, I order us all to take the evening off and get drunk."

It was quite a party. The men were depressed at first, but presently



an almost hysterical gaiety came. They began singing songs, the old space ballads, the barroom ditties of Earth, the ribald lays of frontiers where women were few and far between. The *Diogenes* had started out with a generous liquor ration, and had since stopped at two terrestrial-type worlds whose inhabitants were familiar with alcohol. A good time was had by all.

Nielsen sat back in a pleasant haze and watched his men. Good boys, fine boys, the bravest and best old Earth had ever sent out. No black sphere was going to stop them, no sir, not when the beer supplies were running low and Earth's girls waited with the sun bright in their hair.

"Roll me over, in the clover—"

"I still think that shere . . . sphere did it," insisted Morley. "Who else would do that to me? After I worked so hard on my set— You wouldn' do that, would you, Themy?"

"Never," affirmed Kiarios.

"Burn out my set," mumbled Morley aggrievedly. "Shoot out a long hairy arm and grab my set and burn it out—"

"Now this is number six—"

Nielsen leaned forward. He had a sudden wobbly feeling of revelation, as if someone had rolled back a curtain he hadn't even known was there. "What—" His tongue twisted, and he had to back up. "Hey! What was that?"

"What was what?" Morley blinked at him.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"What you just said."

"What'd I jus' say?"

"About the sphere."

"I don't like it." Morley drained his glass and looked around for a refill.

"Neither do I . . . but—" Nielsen could feel his heartbeat accelerating. He struggled for calmness. Slowly, then he said, "Your receiver set burned out just when the generators did—"

"Uh-huh. That is, the antenna coil, RF grid coil and plate coil, also the RF amplifier tube. It was set for about 30 KC. So what?"

Nielsen turned to Ramachandra, who had his arms about Ivanoff's and Cetewayo's shoulders. The three were making an ineffective attempt to harmonize, and it took a bit of shaking and pommeling to attract the physicist's attention.

"I think I've got it," said Nielsen. "I think I have the answer."

"What answer?"

"The answer to our problem—the simple elementary answer we were too tired and tense to think of." Nielsen beamed. "Isn't alcohol wonderful?"

"I hate to do this to your beautiful theory," said Ramachandra to Duncan. "It was much more picturesque than the truth."

"You are forgiven," replied the biologist. "But please tell me what the real answer is."

"The sphere is just about at absolute zero *in most wave lengths*," stated Nielsen. He felt a deep inward satisfaction that it was he who had hit on the answer. It restored his damaged ego, which is necessary compensation for the load of responsibility. "But all incident energy is reradiated on a radio band, about thirty kilocycles to be exact. How it's done we don't yet know—but we'll find out. We just made quantitative measurements which confirm it."

"Then the sphere is just a . . . a radio wave generator?"

"A nearly perfect one," said Ramachandra. "It turns every kind of energy into this one type, with a negligibly small loss. Solar heat, molecular motion, waste heat for a less efficient device—*anything*. I rather imagine the second law of thermodynamics will have to be amended to cover this case—but since it's already been amended for certain biochemical processes, I daresay it'll stand the strain."

"But what's the purpose?" asked Chai-Chou.

Nielsen smiled fondly at the sphere. It was, really, rather a nice friendly thing to look at. "Power," he said. "At 30 KC this one unit could probably cover the planet, or at least a sufficient area for the purposes of the colony. It could transform any energy into useful power, so that there was no waste really in broadcasting. It's that waste which had held Earth back from using central powercasting units—now, once they find how this machine works, we can have free power out of the air."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Sounds nice," said Kiarios dubiously, "except that we can't get the thing off this planet."

"Sure we can." Nielsen grinned. "That, too, came to me in a moment of bacchantic inspiration. If you stop to think about the principles of relative motion, you'll see that the sphere can be moved either in free space or perpendicularly to the local force field without effect on its energy-conversion mechanism; it's changes in the kinetic energy of its own structure relative to its center, that is, temperature changes, and changes in the potential energy of the sphere as a whole that are resisted. Therefore, all we have to do is cut away the concrete pedestal and have the levi lift the sphere. We can't raise it against gravity that way, no, but we can keep it from falling by pushing it, so to speak, against the equipotential line of the gravitational field. And when we move it over to the ship along such a perfect equipotential, we are doing no work on it!"

"Then how do we get the ship off the ground?"

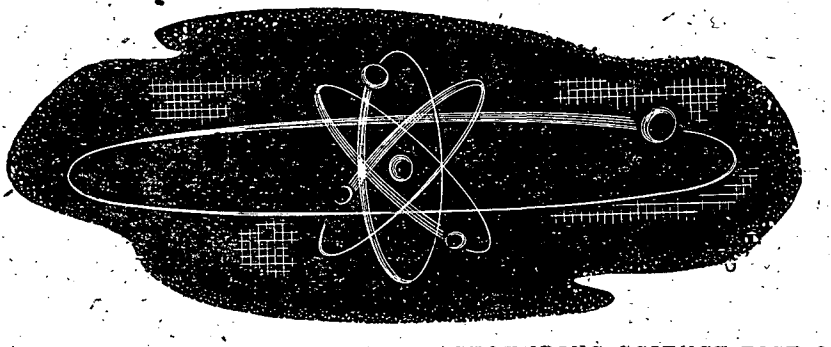
"Again, simple," smiled Ramachandra. "Instead of letting its radiated energy dissipate uselessly, we should have no great trouble rigging up a system of reflectors and receivers which will feed all that power right back into the engines. Hey, I think we can fix it up so that the sphere will replace the generators and save us the trouble of rewinding them!"

"Well, so much for that." Duncan frowned. "But I'd still like to know just what happened to the builders."

"Who can tell?" Nielsen shrugged. "I can think of a number of adequate—and unspectacular—reasons why their culture should have declined. Somehow, I don't think it'll take too long to find out, not when we have electronic spaceships."

He went out of the building toward the *Diogenes*, shining under the stars.

THE END.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE APHRODITE PROJECT

BY PHILIP LATHAM

The story of the problem of measuring Venus mass, and a secret attempt to do the job. Perhaps not quite fact—but could be!

Editor's Note. Seldom indeed does a monthly magazine have a chance to scoop the daily papers. In this case, however, a remarkable combination of events has made such a feat possible. In our opinion, the Aphrodite Project ranks so far ahead of the Diana Project—radar contact with the Moon—in the exploration of space, that there is simply no comparison. But whereas the Diana Project was released to the press in the usual way and received wide publicity, for some obscure official reason the results of the much more sensational Aphrodite Project were shrouded in the deepest secrecy. And when the report did finally appear it was in the form of a highly technical government bulletin unintelligible to the layman. Purely by accident it was brought to our attention as the most exciting development since the atomic bomb.

We have asked Philip Latham to abstract the government bulletin which fills some three hundred twenty pages of fine print. Latham has not only written a popular account of the Project, but has also interviewed the three scientists who were the leaders in its development, thus giving our readers the first real behind-the-scenes statement of this epoch-making chapter in the exploration of the planet Venus. J. W. C., Jr.

As early as January 1946 such startling success had been attained in reaching great altitudes with rockets of new and powerful design, that the possibility of sending guided missiles to the Moon or nearer planets seemed finally within our grasp. Twice rockets had broken through the 300-mile level only to have the records rejected owing to instrumental defects. On January 19th, however, instruments recovered intact by a farmer near Quijotoa, Arizona, showed conclusively that the rocket had reached an altitude of six hundred twenty miles. Yet so closely was this knowledge guarded, that the first information the public received of the vast progress being made was not until March 7, 1947, when photographs of Arizona and Lower California were released taken from a V-2 at an altitude of barely one hundred miles.

The interplanetary project had

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

been advocated by several members of the subcommittee on exterior ballistics, among which A. C. Marshall, R. Lindquist, and J. W. Clifton were prominent from the first. Marshall is a retired banker who had lived in a small apartment on Telegraph Hill in San Francisco for many years. A confirmed bachelor, he had amused himself by working out the orbits of minor planets and occasionally contributing a note on celestial mechanics to the *Astronomical Journal*. He claimed that the mental activity induced by this curious hobby kept him young, so that upon going to the White Sands Proving Grounds he became a close friend at once of Lindquist and Clifton, although there was a difference in age of nearly thirty years. Lindquist is an expert on differential equations who had done pioneer work at Columbia University on punched card methods of numerical computation. Clifton is an amateur astronomer of independent means who has specialized in planetary observations all over the world; for example, he had assisted W. H. Pickering at Jamaica in his study of the lunar crater Eratosthenes, taken photographs of Mars in 1939 from the Pic du Midi in the Pyrenees, and had a hand in the discovery of the tenth satellite of Saturn at Mount Wilson in 1941.

After the flight of January 19, 1946, which had far surpassed the expectations of even the most optimistic, the three had been hopeful of dispatching a robot rocket to the Moon capable of communicating with the Earth from its resting place on the lunar surface. The Navy had expressed sufficient interest in the idea so that a meeting was arranged in Washington early in February. Marshall, who acted as spokesman, emphasized the need of securing on-the-spot information regarding our satellite due to its growing importance as a base for future rocket operations against the Earth. Navy technicians felt, however, that the time and cost of developing a suitable robot rocket would be so excessive as to endanger seriously the program to which they were already committed. But the meeting was not entirely without result, inasmuch as a Committee on Ballistics of the Future was appointed with Marshall as chairman, and Lindquist and Clifton as assistants, empowered to investigate possible orbits from the Earth to the Moon, Mars, and Venus.

Upon returning to Pasadena from Washington, while awaiting word from White Sands, the subject of interplanetary communication was discussed from all angles. Practically every week brought news of technical advances that made the Moon rocket seem closer to reality. It was maddening to think that interplanetary travel was here at last and that nothing but money stood as a barrier to the conquest of space.

Matters might have continued in this unsatisfactory state indefinitely if chance had not come to their aid. In fact, what came to be known as

LICENSED TO UNZ.ORG.
ELECTRONIC REPRODUCTION PROHIBITED

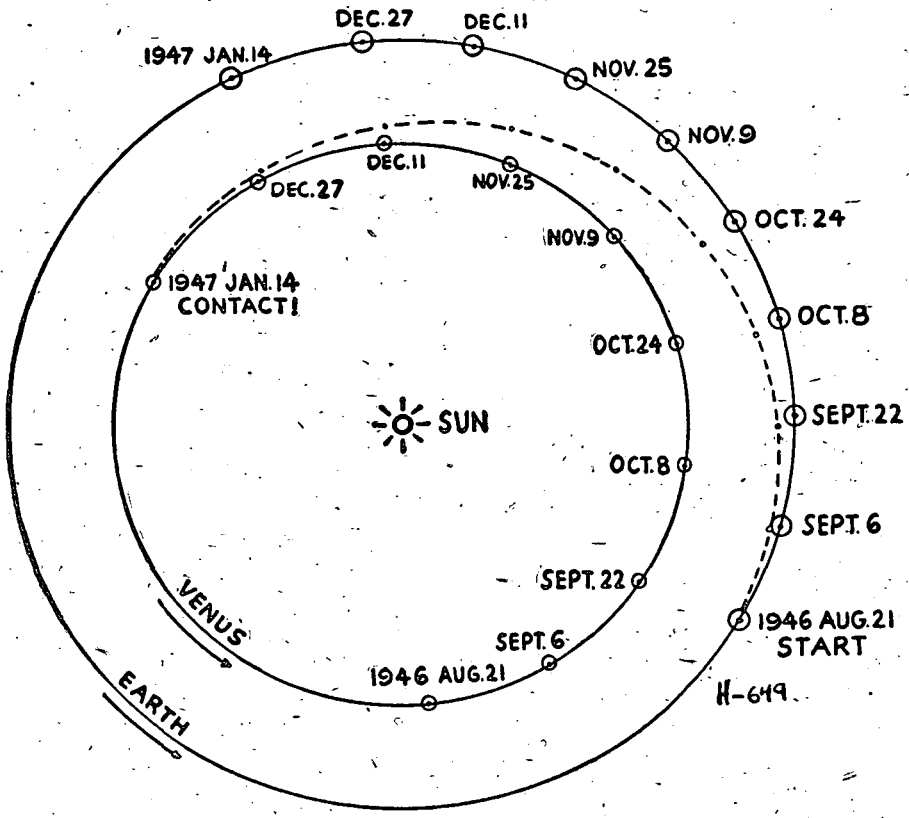


Figure 1. Positions of the Earth and Venus from the time the rocket was launched on August 21, 1946, until the moment of closest approach on January 14, 1947. At 14 hours 39 minutes GCT on this date the rocket was 640,000 miles from the planet. Positions of rocket on same dates as planets shown by dotted line.

the Aphrodite Project apparently originated as the result of a casual conversation one evening early in March between Clifton and Lindquist. They had been inspecting the Astrophysics Building of the California Institute of Technology and shortly after sunset had climbed to the roof for a look at the small-scale model of the 200-inch telescope. Standing near the parapet gazing toward the west Lindquist called attention to a bright star near the horizon.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Venus," Clifton said. "Just coming around from behind the Sun. Nearest planet to the Earth-Moon system and yet how little we know about it. Even its mass is still uncertain."

"Is that a fact? I supposed its mass was accurately determined years ago."

"So did I until the other day. It seems that the mass of Venus can only be found from its perturbations on the Earth and Mars, and they're so small it takes a century to get a reliable value. Too bad Venus was overlooked when they were handing out satellites. If she only had a satellite or two they could get a first-class value for her mass right away."

For several minutes the two stood watching Venus set behind the sign over the cut-rate drugstore on the corner of Lake and California Streets. Then evidently the same idea hit them both at once—why not *give* Venus a satellite? It is almost as easy—or as difficult—to send a rocket to Venus as the Moon. Both are virtually at infinity so far as distance is concerned. Just get a rocket close enough to Venus for capture and she has a satellite immediately.

The thought was so exciting that they determined to get busy on it that very evening. Dashing over to Marshall's house they gave him a quick fill-in while he was finishing dinner. He heard them through without saying a word and then shook his head.

"Sorry to throw cold water on such a brilliant scheme but I'm afraid it won't work. You don't realize how extremely difficult it is for a planet to capture a satellite. These cosmogony fellows who talk so glibly about satellites being captured asteroids never tried to bag one themselves. I did some work on periodic orbits once and believe me, trying to capture a satellite is one of the toughest jobs in celestial mechanics."

He lit his pipe and poured out another cup of coffee.

"You mean it's no good?" Lindquist demanded. "You mean we can't use a rocket to get the mass of Venus?"

"I didn't say so, did I?" Marshall retorted. "I said I doubted if you could rig a set of conditions so that Venus could capture a rocket. But a close approach would do just about as well." He reached for a pencil and paper. "Now sit down while I do a little figuring. Anybody happen to know what the eccentricity of Venus' orbit is?"

Marshall often seemed so slow and absent-minded that Clifton and Lindquist felt a bit sorry for him. But once started on his favorite subject he suddenly came to life with a vigor that was amazing to behold. Lindquist, who had always considered himself as somewhat of an expert at mental arithmetic, was soon left stranded by the wayside. After a while he abandoned the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

chase and decided to let Marshall handle the whole thing himself.

The hours sped by unnoticed. As the night wore on Marshall instead of tiring became more animated. His eyes glistened with excitement and his hand shook in his eagerness to get the numbers down on paper. It was nearly dawn before he tossed his pencil aside.

"Well, boys," he said, studying his figures, "I think we've got something. Whether it will give us a better value for the mass of Venus is a question, but I think it's worth trying, at any rate."

He went to the sideboard and returned with a bottle and glasses. "How about a little toast to the Aphrodite Project?"

Clifton stretched himself trying to keep awake. "The Aphrodite Project? What's that?"

"Name I've just given to this high-powered rocket-to-Venus idea," Marshall replied, filling the glasses. "If I'm not mistaken, we're all going to be men of distinction in spite of ourselves."

A telephone call to Washington elicited such a favorable response from the Navy that an appointment was arranged for Monday, March 18th. This was quicker action than they had expected; in fact, it was a little too quick considering the amount of research that remained to be done. But when Marshall boarded a plane Sunday night it was with a brief case that contained all the essential features of the project in a rough and preliminary form.

The conference with the Navy developed into a series of meetings that lasted for the next two weeks. Even the most conservative were stirred by the boldness of the plan.

"You see, it's this way," Marshall told them, illustrating his remarks on the blackboard. "If you want to get the mass of a planet, you've got to measure its gravitational attraction on some other body. If a planet has a satellite, its mass can be determined at once through a simple little formula called Kepler's law. But for a planet without a satellite the problem is much more difficult. The case of Mars is a good example.

"Before the discovery of Phobos and Deimos our only value for the mass of Mars was that determined by Leverrier from its disturbing effect on neighboring planets. To derive this mass, Leverrier required a century of observations and several years' laborious work by a corps of computers. Then in 1877 Asaph Hall discovered the two moons. From his measures on four nights and ten minutes of high-school algebra, Professor Hall obtained a value for the mass of Mars that was far more reliable than Leverrier's. Precisely the same statement holds for Venus."

Here one of the committee interrupted with a question. "Is it possible to launch a rocket accurately enough so that capture will be effected?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"I'm glad you asked that question," Marshall said. "I was going to discuss it myself in case you didn't.

"Frankly, the chances of capture in my opinion are less than a thousand to one. No matter how carefully you make your calculations, or how expertly the rocket is launched, the slightest bobble will spoil everything. It would be wonderful to say that Venus once had a satellite even for a few days. But the conditions for capture are so critical that we cannot hope for such good luck.

"A very close approach to the planet, however, would do almost as well. Thus the mass of Mercury has been determined mainly from the close approaches of Encke's comet. If I remember correctly, back in 1905 Encke's comet came within about four million miles of Mercury, enabling the Pulkowa Observatory to get a good value for the planet's mass.

"Now I feel confident that we can send a rocket much closer to Venus than Encke's comet has ever come to Mercury. If we can come within half a million miles, that should be amply sufficient for our purposes."

"Suppose we did have a better value for the mass of Venus," an officer objected, "what use would it be after we got it?"

Marshall smiled. "Well, it would certainly be right in line with the purpose for which the Naval Observatory was originally founded, which has been stated as 'the continued maintenance of observations for absolute positions of the fundamental stars.' The angle between the equator and the ecliptic which is the chief cause of the seasons is slowly changing, and the principal cause of this change is due to the action of Venus. Now if the mass of Venus were known more accurately then the positions of the stars with respect to these great circles could be determined with correspondingly higher accuracy.

"And, gentlemen," he concluded, "I believe that despite instrumental aids to navigation you still must rely upon the stars occasionally to locate your ships and aircraft."

Other objections were raised which Marshall was able to answer to the satisfaction of all concerned. One of the strong features of the project was the fact that the cost would only slightly exceed the money already allotted for the original research program.

The outcome of the conference was that a contract was signed on April 5, 1946, with the following provisions:

"A rocket was to be launched under conditions that would cause it to pass within less than 0.01 astronomical units—nine hundred thirty thousand miles—of the planet Venus, or sufficiently close as to cause it to undergo perturbations of a large and extraordinary character.

"The rocket was to bear material of such a nature that a cloud of high reflectivity approximately

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

twenty miles in diameter would be released at a suitable time for observation.

"Every effort would be made to study the motion of the reflecting cloud, by establishing an observatory for that purpose equipped with the necessary instrumental aids, to the end that an improved value for the mass of the planet Venus might be obtained."

Even before the contract was signed Lindquist had started work on the path of the rocket aided by two computers kindly furnished by the Western Office of Statistical Research in Los Angeles.

"If we had deliberately planned the Aphrodite Project years in advance, we could hardly have picked a better time than naturally occurred," Lindquist said, when I talked with him in his office on the fourth floor of the Astrophysical Laboratory at Cal-Tech one afternoon.

"The easiest method of sending a rocket to another planet is by making contact on the side of its orbit halfway around from the launching point." Here he drew a diagram whose main features are reproduced in Figure 1. "The time required for a rocket to travel from the Earth to Venus in this type of path is one hundred forty-six days. The trouble is that just intersecting the *orbit* of Venus isn't enough—what you've got to do is smack right into the old girl herself!"

He gazed reflectively at the stack of computing paper on the shelf above his desk. "We found that if the rocket were launched at sunset on August 21, 1946, then Venus and the Earth were situated so that contact would occur one hundred forty-six days later on January 14, 1947, just as we desired. This meant that we had to get busy in a hurry if we expected to get the rocket off by that date."

The technical details connected with the construction of the rocket itself form the subject of a separate report which need not concern us here. A vital part of the apparatus consisted of a timing device attached to a war head filled with a heavy liquid compound under pressure. The timing device was geared to release the explosive 146.1377 days after launching, when according to Lindquist's calculations contact with the orbit of Venus should have been effected. The fluid upon release would form a dense white cloud having an albedo of 0.55, nearly as high as the surface of Venus. If the cloud expanded to a diameter of roughly twenty miles, it should be visible from the Earth as a star of the tenth magnitude. Normally such a cloud would be speedily dissipated by air currents, but the committee hoped that in space it would remain intact long enough for a reliable orbit to be determined.

The launching on the evening of August 21st was attended by a small audience composed mostly of men and women who had been

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

directly concerned in the venture. According to plan, the rocket was to be projected vertically upward at a comparatively low speed until about five hundred miles high, when it would be well beyond the atmospheric fringe. A second discharge would step the speed up until a velocity of 6.777 miles per second was attained, which is the velocity of escape at this distance from the center of the Earth. Then the exhaust would be automatically cut off so that henceforth the rocket would coast to Venus as a free body in space, no further energy being needed to maintain its motion.

Venus was a brilliant object in the southwestern sky at that time and the subject of much discussion and speculation. It seemed incredible that the rocket would soon reach that wavering point of light. Lindquist came in for a lot of good-natured ribbing over the accuracy of his aim, but he stubbornly refused to admit that there could be anything wrong with his calculations.

At 1841 MST the rocket was launched. The little group followed it as long as the flame from the exhaust could be discerned in the twilight sky. The Earth's gift to her sister planet was finally on its way. Now came the hardest part of the job—waiting to see if the new addition to the solar system could be detected one hundred forty-six days later.

The time passed fairly fast, however, as the Observatory had yet to be erected and a special enlarging camera designed for securing photographs of Venus in rapid succession. A dome housing a 12-inch refractor had been built on Mosca Peak in New Mexico at an altitude of nine thousand seven hundred feet. There seemed to be no point in using a lens of larger aperture, for if the rocket could not be picked up with a 12-inch it was doubtful if it could be seen at all. They were strongly influenced by Barnard's statement that the only time Venus showed markings distinctly on May 29, 1889, he found the 12-inch refractor of the Lick Observatory preferable to the great 36-inch.*

The impatience with which the three observers awaited the time of contact may be readily imagined. To add to their anxiety a storm moved in on the Pacific coast on January 5th which threatened to stop the proceedings entirely. But on the 10th the clouds suddenly cleared away revealing a sky of deep blue washed clean of every impurity. On the morning of the 13th the seeing was so good despite a brisk north wind that Marshall was able to detect a faint marking on the southern portion of the disk of Venus.

So often astronomers are bitterly disappointed at some crucial moment in their work, as when clouds obscure the sun during a total eclipse, but for once conditions proved nearly perfect. The first observations of Venus were made with a

* E. E. Barnard, *Astrophysical Journal*, Vol. 5, p. 299, 1897.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

power of 240 through a Wratten C filter, but the image was so steady that they immediately switched to an eyepiece of shorter focal length giving a magnification of 770.

Undoubtedly the appearance of Venus on that particular morning was the most remarkable in the entire observational history of the planet. Clifton, who has made an exhaustive search of the literature from the first recorded markings on Venus discovered by Fontana* at Naples in 1643, says that there is absolutely nothing to compare with the series of observations which they obtained from January 14th to 24th, inclusive. *For the first time human eyes beheld the solid surface of the planet Venus.* Indeed the marking was of such an amazing and wholly unexpected character that at first they forgot about the rocket entirely!

Clifton's remarks owing to his long experience in planetary work are of particular interest.

"I have studied Venus hundreds of times through telescopes ranging in aperture from six to sixty inches. I have made hundreds of sketches of the planet but the majority show only the phase with perhaps a bright spot near the horns and a shaded terminator. As Barnard said, the Venusian markings are exceedingly delicate and so vague and indefinite as to be incapable of identification for rotation purposes.

"Therefore, you can imagine my astonishment when the planet came into focus that morning to see a huge gap in the silvery cloud layer clearly revealing the deep brownish surface beneath. At first I suspected some optical illusion or defect in my vision. But substitution of a higher power eyepiece only brought out the details more clearly under the exquisite seeing conditions.

"One thing was evident immediately: mountain building on Venus has progressed to an extent undreamed of upon Earth. You may recall that early observers such as Schröter, Trouvelot, and Schiaparelli, had inferred the existence of enormous mountains protruding beyond the cloud layer; especially, a great elevation in the southern portion of the planet. This region was now confirmed by our observations. It is situated in latitude 55° South, where it has often been reported as a bright spot probably due to the piling up of clouds over the mountain peak.

"After recovering from our first shock, we began photographing Venus as if our lives depended upon it, for, of course, we had no idea how long the marking would last. During the next thirty minutes we labored with a kind of desperate controlled intensity, like surgeons working over an emergency case in the operating room. I shot one exposure after another, while Marshall kept the record straight, and Lindquist ran back and forth between the telescope and darkroom reloading plateholders. By 6:45 the sky

* Fontana was also the first to detect surface features on Mars in 1636.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

was so light that we were forced to stop, although the great cloud gap became increasingly conspicuous with the dawn.

"About fifteen minutes before sunrise we caught our first glimpse of the rocket. I had been examining the region around the south pole when suddenly a tiny point of light popped into view about 3″ of arc beyond the terminator. Evidently it had been in front of the illuminated hemisphere and hidden from view by the glare.

"The rapid motion of the rocket was obvious after only a few minutes watch. Somewhat to our surprise, it was brighter than we had anticipated, not fainter than 9.0 at the most.

"Altogether, the sight that morning was one that none of us will ever forget: the disk of Venus resembling a crescent moon, the giant opening in the cloud layer, and our rocket a gleaming point moving against the dark hemisphere."

They followed the planet throughout most of the day although by an hour after sunrise the seeing began to deteriorate badly. The rocket soon vanished against the brightening sky but the south polar disturbance remained an easy object. By afternoon considerable change had taken place in the shape of the marking. The region was presumably the center of a violent storm of unprecedented magnitude. From fluctuations in the shape of the cloud layer wind velocities of the order of three hundred miles per hour must be of common occurrence in the upper Venusian atmosphere.

Clifton describes the next ten days as a dream sequence during which everything else was forgotten in their efforts to make the most of their wonderful opportunity to study the nearest world to the Earth-Moon. Daytime was spent in developing and calibrating the plates taken in the early morning, examining them on the measuring machine, and reducing the positions of the marking and rocket. Marshall nearly drove himself into a nervous breakdown trying to compute the orbit of the rocket. Three differential corrections failed to improve the residuals, and not until the error was traced to a defect in the measuring machine itself, was he able to derive a satisfactory set of elements.

"We knew the fine weather could not last very long at that time of year," said Clifton. "Hence our feverish haste to crowd in all the work we could. When on January 25th we awoke to the sound of rain pounding on the dome we knew that the wonderful era was over. Confidentially, I think we were all glad to have a chance to reduce our plates at leisure and catch up on our sleep.

"When the storm clouds cleared away a week later not a trace of the marking remained. The disk of the planet presented its customary smooth white appearance with not a blemish to mar the surface. And the most careful scrutiny failed to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

reveal the rocket, although we thoroughly covered the region around Marshall's search ephemeris. We were not seriously concerned, however, as we had secured far more data than we could ever have anticipated. It is not boasting when I say that in those ten days we learned more about Venus than all the astronomers since the invention of the telescope.

"First, we settled the long controversy over the length of the rotation period. Our measures on the sharply defined mountain peak give a sidereal period of 37 hours 25.7 minutes. Of course, a fairly rapid period had seemed practically a certainty ever since Pettit and Nicholson working with the thermocouple at the 100-inch in 1924 found the temperature to be the same over both the dark and illuminated hemispheres.* Only a rapidly rotating planet could equalize the temperature in this way.

"Of particular interest is the fact that the direction of rotation is *retrograde*. That is, looking down upon the north pole of Venus the planet would be seen turning around in the same direction as the hands of a clock, whereas all the other planets rotate counterclockwise. This is of considerable cosmological significance, in indicating that Venus may have had a different origin from the other members of the solar system.

"The height of the mountain in the southern hemisphere was determined from the length of its shadow, essentially in the same manner that the height of a lunar mountain is measured. The result was staggering. Will you believe me when I tell you that it towers twenty-five miles high? What an awe-inspiring sight it must be upon the planet itself. A peak rising up and up until it vanishes from sight among the driving clouds that blanket the surface from view."

(Several geophysicists have raised the question of whether so vast a protuberance could have been produced by the natural processes of planetary evolution.) They consider it more probable that the "mountain" may have been formed by collision with an asteroid moving in an orbit interior to the Earth, such as Hermes, Apollo, and Adonis.)

The preliminary value for the mass of Venus derived from the perturbations of the rocket is 0.907,* or about ten percent more than value recently adopted by the Naval Observatory. Marshall is still at work upon the problem but so far has been unable to reconcile his results with those previously obtained. He feels that an error may have been introduced in some way owing to the unusual character of the object itself.

The co-operation received from various observatories was disappointing, to say the least, although in justice to some it must be conceded that bad weather prevented observations at several stations. The

* *Popular Astronomy*, Vol. 32, p. 614, 1924.

* This is in terms of the combined mass of the Earth and Moon.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Lowell Observatory was completely shut off by clouds during the entire period, as was also true at Lick and Climax. Mount Wilson reported clear weather with seeing fair but neither the 60-inch nor the 100-inch was turned on Venus owing apparently to conflict with other research programs. Thus an opportunity was lost that may never occur again owing to the general apathy that prevails among professional astronomers toward any and all planetary work.

For some inexplicable reason military authorities have refused permission to release enlargements of the original negatives showing the marking and rocket. By no stretch of the imagination can these plates be of value in national defense, yet our arguments meet always with the same official wall of silence. The authorities have, however, permitted Chesley Bonestell to paint Venus as Clifton saw it on the morning of January 14th, under a magnification of 770 with seeing 8 on a scale of 1 to 10.

And judging from the present official attitude, this is the only picture of Venus on that historic occasion we are likely to get for a long time to come.

THE END

THE ANALYTICAL LABORATORY

Next month this little department throws out its chest, inflates itself mightily, and takes up two pages. We'll be reporting the survey analysis. The presence of that questionnaire—which brought an unexpectedly large flood of replies, for which we very genuinely and sincerely thank you—brought more than the usual number of An Lab reports, also. The outstanding feature of the Lab this time is the very positive triumph of "Opening Doors"; first place wasn't seriously disputed. Here are the results:

March, 1949 Issue

Place	Story	Author	Points
1.	Opening Doors	Wilmar H. Shiras	1.72
2.	Fireproof	Hal Clement	3.26
3.	Seetee Shock (Pt II)	Will Stewart	3.32
4.	The Glass Eye	Eric Frank Russell	3.68
5.	Customs Declaration	Rex Graham	3.71

The high point score on second place, and the close grouping of the remaining stories indicate how real the "Doors" triumph was.

THE EDITOR.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

NEEDLE

BY HAL CLEMENT

***Second** of two parts. The Hunter had a job—finding a poisoned Needle—a killer—lost in a haystack of . . .*

Illustrated by Orban

Synopsis

"The Hunter"—a nickname given a professional detective because of his trade, as his race lacks vocal apparatus—pursues a criminal of his own people across space to the Solar System. The fugitive, apparently in despair of escape, slows at the last minute after diving down the shadow cone of Earth, and both ships crash into the Pacific.

Although the vessels are destroyed, neither pilot is injured; for the Hunter belongs to a race almost immune to mechanical damage. Their bodies are small and semifluid in nature; while they are metazoans, their cells are of viruslike

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

minuteness. They normally live in symbiotic relationship with others, more solidly built creatures—a relationship which has existed so long that a definite code of conduct had grown up governing their relationships with their "hosts." The Hunter's quarry had violated that code, bringing about serious injury to his host for his own selfish purposes.

Reaching shore, the Hunter makes contact with and enters the body of Robert Kinnaird, a fifteen-year-old boy whose parents live and work on an island near the scene of the crash. Before the relationship is perfected to the point where the Hunter can see his surroundings, Robert had returned to school in the United States, thousands of miles from the island.

Over a period of several months, the Hunter manages to convince the boy of the symbiote's existence and friendly intentions, learn his language—and incidentally the probable whereabouts of his quarry—and, more or less fortuitously, so arrange matters that Bob returns to the island considerably ahead of his normal vacation time. By this time the boy is as enthusiastic as the detective to find and destroy a being who could be so dangerous to human life—a member of the Hunter's race could, of course, kill a human being easily by blocking an important blood vessel or nerve, even though they have no telepathic or other supernormal powers; and since as a last resort human flesh could serve them as food, there was strong argument for eliminating any member of that race lacking a well developed conscience.

However, when Bob asks the Hunter how he plans to set about locating and destroying the criminal, the detective suddenly realizes his problem. The quarry is by this time almost certainly safely ensconced in a human body, quite undetectable to sight, hearing, or touch; and the Hunter is cut off from all the normal scientific resources of his profession. The Earth spawns more than two billion human beings; and any one of them may be the fugitive's unsuspecting host!

Part 2

From Seattle to Honolulu; Honolulu to Ponape; in a smaller machine from Ponape to Papeete; and finally, from the deck of the small tanker that made the rounds of the "power islands." Bob and the Hunter watched the cone that marked Tahiti's position disappear beneath the curve of the sea, and they were embarked on the last lap of the trip. The boy had let considerations of the chase drop momentarily in anticipation of the meeting with his parents and friends; and the Hunter, for reasons of his own, made no attempt to control his host's attention. He was in no mood to answer questions—particularly questions he was industriously asking himself.

The island that finally revealed itself to Bob's eager gaze was not large. The Hunter estimated, and the boy confirmed, its greatest length

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

to be about three and a half miles. It was shaped roughly like a capital L, with the harbor formed by the interior angle facing north. The reef that surrounded it was more nearly circular, so that the inclosed lagoon was very broad on the north side. Through the reef on this side were two natural passages; the more easterly was still too shallow for large vessels, but the other had been deepened by blasting away the coral until the tanker was able to make its way through safely at any time. Bob remarked, as they nosed their way into the carefully marked passage, that it was still sometimes necessary to employ dynamite as brain-corals and similar growths established themselves in the channel.

The lagoon itself was nearly free of the islets which are usually to be found in such places, but scattered over its surface were a number of low, nearly featureless concrete structures, each about two hundred yards square. These, according to Bob, were the principle reason his family dwelt on the island; they were the culture tanks, built in the shallow, sun-warmed water of the lagoon to permit easy replacement of the heat used up in the endothermic reactions by which special strains of bacteria produced usable hydrocarbons from water and carbonaceous waste materials.

A similar but somewhat smaller structure topped by a large rectangular superstructure and connected to the shore by a metal causeway some six hundred yards in length, proved to be the tanker's regular dock. The upper portion was a storage building, connected directly to the culture tanks by pipe lines which sprawled invisibly along the hard bottom of the lagoon; such portions of the building as were not occupied by tanks were devoted to pumping apparatus and other equipment used in the transferring and elementary processing of the island's products.

Bob, not waiting for his small supply of luggage, went down the gangplank the moment it was lowered and raced at top speed around the corner of the storage building, which from the ship's position cut off his view of the causeway leading from the shore. A jeep was speeding toward the dock, and Bob's eyes quickly confirmed what his intuition had instantly informed him.

The vehicle reached the dock, and made the turn along the narrow space available between storage building and rail at a speed which threatened to carry it into the former, and squealed to a halt immediately beside the boy and his invisible guest. The Hunter watched, with an interest in which genuine sympathy played a large part, the greeting between father and son which followed. He listened, with more selfish motives, to the flood of questions poured out by his young host, which threatened to involve the doings of every one of the island's seven or eight score inhabitants; and he was genuinely disappointed when the elder Kin-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

naird's answers confined themselves to conventional phrases. He had not really hoped, of course, for useful information so early in the game; but he was quite human emotionally.

"I'll have to be out here until loading is finished," Mr. Kinnaird finally brought the conversation up to the moment. "We'll get your baggage and you can take it home in the jeep—your mother could stand seeing you pretty soon, I suppose. Come back, or get the jeep back, for me by sundown, though, if you please—and no remarks about my needing exercise."

Bob grinned in reply. "Not until I'm dressed to go swimming," he answered cheerfully, as they turned back toward the ship to reclaim the boy's luggage. The father dropped a little behind, watched the eager youngster as he slipped up the gangplank to the dock where the suitcases were piled, and thought over the school doctor's report.

There was certainly no sign of melancholy or other abnormality so far, he decided; and if the boy could retain his present mood long enough to take the first edge off his mother's worry, all would probably be well.

Mrs. Kinnaird was given little reason or opportunity for worry. Bob stormed into the house, greeted his mother as boisterously and as briefly as usual, stayed around long enough to give her a brief resumé of his trip, and was off again in the jeep, after loading his bicycle into the rear seat. His mother watched him vanish down the road with approval—she knew better than to expect him to stay around the house all afternoon simply because she liked his company—and any faint regrets at his failure to do so were smothered in the relief she felt at his apparently perfect health. She wondered just what had given the school doctor his idea, and spent some time reviewing the recent correspondence with the school. She could reach no conclusion, but her determination that Bob should be thoroughly checked over by the island doctor remained unchanged.

Bob, meanwhile, had returned the jeep to the dock, unloaded his bicycle, and, after a brief delay caused by his forgetting to check the tires before leaving home, started out in search of some of his friends. He had not addressed the Hunter since landing; it is doubtful that he thought at any time of the mission to be accomplished on the island; and, as before, the Hunter chose not to remind him. For the time being, the alien was content to wait passively and observe.

Bob, after glancing at his watch, headed for the school, which should just about be getting out for the day. He pedaled rapidly along the causeway and up the road that led from its shore end to the collection of rather widely spaced homes and gardens which was the island's closest approach to a town; here he turned right on the hard-surfaced road that ran nearly the whole length of the island. He had been

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

climbing a slight gradient up to this point; now the way leveled off, and even descended slightly toward the creek that emptied into the lagoon some distance beyond the school, so the bicycle made even better time. The school building was only about a third of a mile from the road junction, at the edge of the home and food garden area; so that a very few minutes after leaving the dock Bob was dismounting from his machine in the midst of a welcoming and somewhat riotous crowd of acquaintances.

The school-age population of the island was a rather large fraction of the total; when the station had been established, some eighteen years before, only young married couples had been granted positions there. Consequently, there was a great deal of handshaking and inquiry after the health of numerous people before the group disintegrated and left Bob surrounded by a few of his closest friends.

One of these the Hunter recognized as a member of the group who had been swimming together the day he had met Bob—he had not been very familiar with the distinguishing criteria of human features at the time, but Kenny Rice's mop of flame-colored hair was hard to forget. The alien quickly learned from the conversation which of the others had belonged to the swimming party; they were boys named Norman Hay and Hugh Colby, both a year or so younger than Bob. The only other member of the present group was a blond fifteen-year-old nearly six feet tall named Kenneth Malmstrom, distinguished from the red-haired Rice in ordinary conversation by the inevitable sobriquet of "Shorty." These four, together with Bob, had been companions in peace and war since they were old enough to leave the vicinity of their own yards. All, as the Hunter quickly learned, lived near the northwest tip of the island—the top of the vertical line of the L—where a few families had built homes on the north slope of the island's central ridge—the island was "high" in the terminology of that part of the Pacific, though no part of it was more than ninety feet above the hurricane high-water mark. It was more than coincidence that the alien had found them swimming at the point where he came ashore; anyone knowing the point where he had crashed would have been quite safe in betting that the Hunter would have made one of the five his first host, for they spent at least a part of every day the weather permitted such activity in and on the water. This fact speedily became apparent; for within a few moments after they were left alone, Bob brought the conversation around to this vein.

"Has anyone been poking around the reef lately?" he asked.

"*We* haven't," replied Rice. "Hugh stepped through the bottom of the boat six weeks ago, and we haven't been able to find a usable plank to fix it so far."

"That bottom had been promis-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ing to go for months," Colby came sturdily to his own defense. Nobody saw fit to contradict him.

"Anyway, we have to go the long way around to the south shore now," added Rice. "A storm in December shoved a brain coral bigger than the boat into the Gate. Dad's been promising to dynamite it ever since, but he hasn't got around to it yet."

"How about the beach, then?" asked Bob. "We could walk part of the south shore, anyway—and grab a swim at the Breakers as we went around. I haven't been in salt water since the last time we were in it together." Expressions of agreement came from the others, and they dispersed to collect the bicycles which were leaning against the school building.

Conversation, in which the Hunter took deep interest, was continued without interruption as the group wheeled rapidly up the road toward the island's tip. As he listened, he also watched through Bob's eyes, absorbing as much as possible of the local geography. A couple of hundred yards from the school, the road crossed on a well-made wooden bridge a creek that carried a trickle of water from the ridge on their left down to the lagoon. A mile further on, a second, somewhat larger water-course was led under the road through a concrete culvert; the Hunter gathered from the remarks of the boys that the boat to which they had referred was kept beached at the mouth of this creek.

There was about a mile more of road to be traversed; the homes of all five of the boys were located along this stretch, at various distances up the hillside from the road. At each drive the cavalcade stopped while one of its members went uphill for his bathing suit; at the home of Norman Hay, at the very end of the hard surface, the bicycles were left and the group headed westward on foot.

Half a mile of this, partly along a trail through the almost junglelike growth of the ridge and partly through a relatively open grove of coconut palms, brought them to the beach; and the Hunter felt like one who has completed an Odyssey. He recognized the spot—the breakers, the sandy stretch of beach bordered by coconut palms, the scores of details that make every place in the Universe just a trifle different from every other place. It was here he had encountered the boys swimming, when he had first emerged from Earth's ocean onto dry land; here he had succeeded in finding his way into Bob's body; from here his search for the creature responsible for his journey should have started; and—from here, without further delay, it *would* start.

He was led from a consideration of this grim resolve by more immediate questions. The boys had wasted little time changing into swimming costume; and Bob was dashing toward the surf ahead of the rest. The beach, though largely composed of fine sand, contained

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

many pieces of sharp coral; and the boy in his haste encountered several of these before he could bring himself to a stop. The Hunter was doing his duty, so Bob's examination of the soles of his feet produced no evidence of actual damage. Consequently he formed the conclusion that his feet had been softened by a few months in shoes, and promptly resumed his dash to the water in order to keep ahead of his companions. The Hunter was distinctly annoyed by this, and administered the twinges he had been accustomed to give his original host as warning that he was doing himself injury. Bob did not even feel the signal, and would not have known its meaning in any case; he churned into the water until he was hip-deep and plunged headlong into an incoming breaker, the others at his heels. The Hunter gave up his attempts at signaling, held the cuts closed, and seethed quietly. His presence, after all, should not be construed as license to exceed the normal safety limits of stress for his host's body; if Bob was going to ignore possible sources of minor personal injury just because the Hunter was present and could be counted on for protection, then the alien was going to have to take some definite steps. He recalled vaguely from his historical readings that his race had had some such difficulty with the Allanese during the first few generations of symbiosis.

The swim was short; this beach was the only part of the island unprotected by the reef, and the surf was heavy. The tidal pool in which the Hunter had first encountered the boys no longer existed; storms had shifted the sand banks which had outlined it. The boys decided rather quickly that they had had enough. They emerged from the water, bundled their clothes into their shirts, and set off down the beach carrying the garments. Before they had gone far, the Hunter took advantage of Bob's gazing momentarily out to sea to advise him in strong terms to don his shoes. The boy allowed his common sense to override minor considerations of vanity, and did so.

The group proceeded for some distance down the beach. After the first few hundred yards, the reef once more sheltered the shore, so the accumulation of flotsam materially decreased; but in spite of this, they had one piece of good fortune—a twelve-foot plank, fourteen inches wide and perfectly sound, had somehow found its way through the barrier and been cast up on the sand. With the damaged boat foremost in their minds, the boys delightedly dragged their treasure above high water mark, and placed a number of pebbles on it in a design signifying "Claimed" to any of the island youths.

Aside from this, the "south shore" —the nearly straight length of beach that extended for some three miles and actually faced approximately southwest— yielded little of interest

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

or value to any of the five youthful beachcombers; and Bob returned to his home somewhat late for supper. The plank had been borne, by the boys' united efforts, to the mouth of the creek where the boat was kept; so the only souvenir of the afternoon's activities Bob brought home with him was the beginning glow of a very complete sunburn. Even the Hunter had failed to appreciate the danger or detect the symptoms early enough to get the boy back into his clothes in time.

The alien, unlike his host, was able to see one good point in connection with the mishap; it might cure the boy of the unfortunate tendency he had been developing, of leaving the care of his body to the Hunter. The latter said nothing of the sort, of course—it might have been taken amiss, as Bob lay awake that night trying to keep as much of himself as possible out of contact with the sheets. He had not been so careless for years, and was inclined to blame it on his coming home at such an odd time. The Hunter did not dispute the matter. He could not have eliminated the pain without the risk of permanent damage to Bob's sensory nerves, and probably would not have done so anyway.

The next morning several square feet of bright red skin, inclosing an exceedingly disgruntled youth, descended to breakfast in the Kinnaird house; and though the suggestion that Bob should see the doctor was at first met with indignation, the parents found that not too much time was required to crown their efforts at persuasion with success. This pleased them greatly; the doctor had already been informed of the school report, and would be able to deal with that matter less obviously than if the boy had simply gone to see him for a "check-up." Mr. and Mrs. Kinnaird did not realize that Bob had reasons of his own for wanting to visit the doctor.

In spite of his discomfort, he had spent part of the night considering the Hunter's problem; and it had occurred to him that he would be much better off knowing more than he did about viruses in general. The Hunter had said his own body cells were of viruslike nature, and it seemed obvious that clues to the whereabouts of the fugitive could be obtained, or even recognized, only by an understanding of the known characteristics of the creature.

There was, to the best of Bob's knowledge, only one place on the island likely to contain the information he sought; and that was the doctor's medical library. In consequence, the boy did not have to be persuaded very hard to pay a visit to the doctor.

Dr. Seever knew Bob well, as he had known every other person born on the island from their first squalls. He had read the school doctor's report, and his opinion of its accuracy chimed very closely with Mr. Kinnaird's. However, investigation

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

would do no harm; so he was willing enough to see the youth. He expressed sympathy with the sunburn where Bob had expected the ridicule he deserved, and the conversation from that point flowed smoothly as if rehearsed. Each had something he wanted said, for purposes of his own; and within a very few minutes a number of the doctor's medical books were open on the desk while the two human beings and their invisible companion looked through them in search of answers to the boy's questions—the doctor knew many of them, of course, but no one on earth could have supplied the answers to all. At the same time, the doctor was drawing conclusions of his own from the intense scientific interest suddenly displayed by a person he had always considered, if anything, less than ordinarily bookish in tastes. Actually, the doctor was more satisfied with the results of the interview and examination than was Bob.

The former had become reasonably certain that the boy's apparent change in personality had been a momentary phase, caused probably by the abrupt rousing of his interest in a group of subjects to which he had been an almost total stranger—he was far from being the first adolescent whose mind had spent a few weeks from time to time prowling through some new field of interest. Bob, on his part, had learned a good deal about viruses—as understood by human medical science—they were, he gathered, the smallest bits of living matter known. They were not, in fact, always living; apparently they had been actually crystallized, left in that state for

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

long periods, and resumed their activities of feeding and reproduction when once again dissolved. They were supposed to consist of single protein molecules of enormous weight, though Bob lacked the knowledge of basic chemistry necessary to appreciate the figure to the full. If such a molecule could live, as a single-celled animal can live, there seemed no valid reason why a whole order of metazoan life could not develop with the virus molecule instead of the cell as its basic unit. Bob did not have all these terms at his command, but he could picture the situation clearly enough to see this possibility. He also saw that, the size of the virus being what it was compared to most life cells, a creature could be as complicated in cellular structure as a human being without being much more than microscopic in size. Nothing that he found in the doctor's books led him to doubt the Hunter's being exactly what he had claimed to be.

As far as the detection of viruses went, the books had not been so helpful. Usually a disease of unknown origin was "ascribed" to a virus; in only a few cases had the actual agent been isolated. There might be—probably were—uncountable hordes of the quasi-living things inhabiting the bodies of everything that grew or moved, without giving sign or token of their presence. Only a few of the thousands of species of bacteria produce disease; why should all the viruses?

The few actually identified had been isolated chemically and this seemed to offer no help whatever in the Hunter's problem. It did not seem likely that blood or tissue samples could be obtained from a suspected human being, that the alien would permit any portion of himself to be included in such a sample, or that the tissue of the Hunter's race could be distinguished from any other virus by the rather crude centrifugal methods described in the doctor's books.

There are other means of identifying the species from which a tissue sample has been taken; however, the doctor had made some reference to serum tests. Bob had not dared to ask for much detail, fearing that the motive of his curiosity might be questioned; but from the little that had been said, the serum method might overcome the last of the three objections to the chemical test.

Then there was analysis of wastes—but even Bob's untrained mind could envision the rigid feeding control such a process would entail. He knew little or nothing about basal metabolism; if he had thought of it, he would probably have realized that the absence of control values would have nullified its usefulness in the present case.

And every one of these more than doubtful methods had one glaring fault; not one gave a clue that suggested where to *start* looking. They would have had to be applied to a whole population, and rack his brains as he might, Bob could think of no

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

test whatever to which this sad fact did not apply.

Some viruses, of course, can be detected by the diseases they produce; but this very definitely did not apply to the Hunter's species. On the contrary; and you can't arrest a man on suspicion because he *isn't* sick. Any suspiciously sudden case of recovery from chronic illnesses would have to be investigated, of course; but that would not account for a very large fraction of any population—except perhaps a leper colony.

Selective poisons? At this point Bob put a question to the Hunter. They had left the doctor's home, and were rolling leisurely along the road toward the Kinnaird house.

"Hunter, a lot of human beings drink alcohol; and I remember when the nurse put some on that cut on my arm, it bothered you a good deal. Would that help us find your fugitive?"

"Alcohol in the concentration that touched me on that occasion would certainly force our friend to leave his host," the answer came slowly. "However, anything like that concentration would destroy your tissues just as effectively. I have gathered from reading that some of your people can live with rather startling amounts of that chemical in their blood streams; and I would be willing to assume that our quarry is not in the body of anyone who drinks it heavily and habitually. I would have to make tests, however, to be sure whether a single binge would be harder on the host or the symbiote." The Hunter did not always recognize slang when he saw it.

"If you are a virus yourself, would there be any virus diseases that would affect your kind but not a human host?"

"Very possibly. On my home world we have learned to overcome all the ordinary types; but the virus molecule is very susceptible to influences producing mutation, and we frequently encounter types which cause us trouble. I have had no trouble with any of the numerous varieties that were in your body, but it would be foolish to ignore the possibility. If I encounter one, and can adapt myself to it before it kills me or forces me to withdraw from you, and if it is harmless to your tissues, such an organism could be useful to us. That leaves quite a bit in the lap of chance, however. I take it you have been endeavoring to solve by yourself the problem of locating my quarry?"

Bob admitted that this was the case.

"You are doing well, considering that the field is so new to you. I don't mind admitting that the rather unorthodox setting of this problem is bothering me somewhat, though I shall probably be able to adapt some standard procedures to it eventually. Any thoughts you may have will be welcome, however."

Bob's self-confidence was considerably elevated by this conversa-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tion, though his trust in the Hunter's weird abilities was somewhat shaken by the discovery that some diseases might be too much for his protector. He had, as the Hunter feared, developed a subconscious tendency to look on the alien as practically a guarantee of invulnerability.

The Hunter's method of conversation had speeded up somewhat with practice, but even so this brief dialogue had lasted all the way home from the doctor's. Bob ran the bicycle under the porch and went indoors. The jeep had been standing outside, so he was not surprised to find his father there, though it was an unusual time for him to be at home. Bob found both his parents in the living room, reported as accurately as he could what the doctor had said, and then asked what had brought Mr. Kinnaird home so early in the day.

"I came home to get some food," was the answer. "Your friends probably told you that there was a new tank going up on Round Hill. They want to start pouring the south wall tomorrow, and the retainers have to be finished and checked. We'll certainly be all day, and probably most of the night, on it."

"May I go along?" asked Bob. "I may be some help, and it's too late to go to school today—it's Friday anyway. Is this tank any different from the one they set up last year?"

"No important difference. You might as well come along: If you aren't able to avoid dropping planks on your toes and falling off retaining walls, it's time I found it out. Your mother will double the lunch order, I expect."

"As a special favor," Mrs. Kinnaird laughed, and vanished into the kitchen. She was in unusually good spirits; the doctor had already telephoned to the effect that the only thing probably wrong with her son was a sunburn. She reappeared quickly with cold meat and milk, and returned to the kitchen to make sandwiches.

In the living room, Bob and his father were in deep conversation. Once again the boy had forgotten his mission, and was asking about the new culture tank—he had been away at school when the one to which he had referred in his question had been installed. The Hunter paid little attention; he already had a pretty clear notion of the working and construction of the tanks, and in any case would shortly be able to see for himself. He was considering more deeply the suggestions made by Bob a few minutes ago, and wondering whether anything could be made of them. That alcohol idea, now—. Of course, the only really trustworthy selective drugs were serums, and they could hardly be obtained; and allergens were too unpredictable, though the Hunter could probably isolate some of those himself.

He could, of course, with a few minutes direct investigation of a body, detect the other's presence

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

easily. Physical contact with the tissue of his own kind was something on which the Hunter was not likely to be deceived; but how to obtain such contact? And, more important, how to obtain it with significant portion of the human population of Earth? This was where the trouble lay. Some means had to be found for narrowing down the number of possible suspects to a point where individual testing would be practical. The only means to this end that had occurred so far either to Bob or the Hunter was an analysis of the effects of the alien's presence, in the hope that some of those effects would be obvious to outside observers.

Looked at in this fashion, a possible technique which had not been considered so far became glaringly obvious: the actual tracing of the fugitive's possible moves. The Hunter knew that the other ship had, like his own, fallen into water and it had still been sinking at the time of the Hunter's own crash. There was the chance—it had already been considered in conversations with Bob—that its occupant was still in the sea, leading the half-vegetation existence that lack of warmth, oxygen, and free mobility would necessitate. It must have crashed quite close to this island, and the chance of its having found its way ashore on any other was small. If, then, it *had* escaped from the sea, it must have done so more or less as the Hunter had; and people who frequented the seashore in times of leisure were automatically on the suspect list. Bob's friends would have to be "questioned." It was, the Hunter thought, unlikely that people who actually worked around the water would have been taken; he remembered how the boys had reacted to his own presence while he had been disguised as a jellyfish. A member of the human race would almost have to be asleep in order to be accessible to the sluggish object that was a member of his own race without a host.

It was to be hoped that the fugitive had succeeded in emerging from the sea; if not, it would remain a threat for an almost indefinite period, and literally nothing could be done but wait for it.

Assuming, for purposes of planning action, that the creature had reached the island and found refuge in a human host, then the program of testing Bob's friends and any others who could be proved to have slept or rested within a reasonable distance of the water would have to be undertaken. The only practicable method of testing was a physical search of the bodies involved. That process would take several minutes at least; and the unpleasant fact that he was going to have to leave Bob's body on occasion stared the Hunter in the face. He did not like the idea. It entailed awkwardness in timing, for he was a good enough psychologist to know that he must never let the boy see him leaving or entering; it meant

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

extreme difficulty in planning, for both his radius and time of action on his own would be sharply limited. He must work at night, since he could stand very little sunlight—his exposure at the time he had met Bob constituted nearly his maximum tolerance—and he could not travel rapidly by himself.

The transportation problem was going to be the most difficult. If he only left Bob while the boy was asleep, he would have to travel from the Kinnaird residence to a number of widely scattered points from the island by himself, unless it were possible to arrange for Bob to sleep at the homes of some of his friends occasionally. For any suspects who were not intimate acquaintances of Bob's, there seemed no alternative to travel.

The Hunter was that far in his cogitation when the sandwiches arrived, and Mr. Kinnaird and his son set out for the scene of the new tank. This proved to be on the north slope of the hill which centered itself near the northeast tip of the island—the end of the shorter arm of the "L." The dock was visible from this site, but the swell of the low elevation cut off the view of the storage sheds and houses at the shoreward end of the causeway; the home-and-garden area was located in the saddle at the base of the arm, and even more completely concealed. A number of other tanks were located in the same neighborhood; these dry-land structures contained cultures whose optimum working temperature was far enough above that of the lagoon water so that the advantage of full sunlight more than made up for the more complete nightly let-down.

Much had already been accomplished on the new tank. It was partly cut into the hillside, and the fifty-yard-square floor of special concrete had already been poured and carefully smoothed. The retaining boards for the south wall were being set in place, while mixing and pouring machinery had already been set up on the hillside above the tank. Mr. Kinnaird began examining the work that had been done during his absence, while Bob went to the more immediate scene of activity and began to help carry planks.

The boards extended upward nearly thirty feet, and the Hunter had to swallow his wrath as Bob clung precariously at the top of the retaining wall time after time to help steady new planks as they were being fastened in place. The alien could say nothing, since he dared not interfere with his host's eyesight at such times. He hoped that Mr. Kinnaird would interfere, but that individual had evidently meant exactly what he said about expecting his son to take care of himself. Several times the two met, usually without exchanging more than a nod; more than once the Hunter saw the elder Kinnaird in situations where the alien would have hated to see his host. A semiportable

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

power saw was being used to cut the boards to the proper length, and several times Mr. Kinnaird checked the work of its operators with a disregard of the whirling teeth that would have chilled the Hunter's blood if he had had any. At least it seemed the man's apparent indifference to the minor dangers courted by Bob was part of his character—the Hunter had begun to wonder whether the altruistic side of human nature were not a trifle under developed, until he realized it was probably just Mr. Kinnaird's innate contempt of danger rather than carelessness about his son.

It was frightening to watch, nonetheless, for a being with such a highly developed sense of public responsibility as the Hunter; and at last the alien turned his attention wholly to his own host. That was bad enough. Several times in the course of the evening he had to work, scavenging the areas where splinters had penetrated the boy's skin deeply; more than once the Hunter was braced in expectation of bone and joint damaging falls, though none of these materialized.

About midnight, Bob started yawning frequently enough to catch his father's attention, and was ordered to retire. He obeyed, at least to a certain extent, withdrawing to the neighborhood of the concrete mixers and stretching out on a spot from which he could look down at the work. It was going forward rapidly, and there seemed every likelihood of the pouring's taken place on schedule if Mr. Kinnaird's energy did not flag. Bob, knowing his father, was pretty sure it would not. He did not observe long enough to be sure, however, for his natural fatigue combined with the softness of the grass and the warmth of the air to put him to sleep in rather short order.

The Hunter did not sleep, of course, but he could not watch effectively with Bob's eyes closed. He thought, therefore, though very little crossed him mind that he had not already considered, and listened to the sounds of work which he had learned during the evening to interpret with fair accuracy.

Bob slept for several hours. He was awakened well before dawn, however, by the sound of one of the concrete mixers starting up almost beside him—the Hunter had heard the noises connected with its preparation for some minutes, and had debated the advisability of awakening his host, but had not reached a decision. When Bob sat up and opened his eyes, they found that the floor of the tank was almost deserted; most of the night crew had disappeared. Mr. Kinnaird was still present, standing almost beside his son, silently watching as the great machines ground to a start. Men were still shoveling ingredients into the hoppers, and a haze of cement dust was obscuring the scene. Some of this was carried by the breeze into Bob's eyes, to the annoyance of both beings using the organs.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The Hunter's efforts to clear out the foreign matter spared his host some pain, but did not improve seeing for a few moments. The alien decided to let the tear glands do the lion's share of that job.

Bob was refreshed by the few hours of sleep, and began eagerly to investigate the pouring from some rather hazardous points of vantage. Several times he had to be ordered out of the way as the pouring spouts shifted their position along the edge of the cut—few of the laborers appeared to share Mr. Kinnaird's opinion that Bob was perfectly able to take care of himself. They watched the boy closely; and, in turn, the Hunter watched them. He was not sure what he expected to find, but at least he could become acquainted with the features of as many people as possible—even then, he would have trouble enough keeping track of them when the process of elimination started.

By the time pouring was really under way, and Mr. Kinnaird felt free to take his son home to breakfast—the sandwiches had been consumed long before—the sun was well up, and the Hunter felt reasonably sure that he could recognize most of the workers again by face, and some by name. That was progress of a sort, he tried to tell himself.

It was the only progress he made for several days. Bob, without consulting his invisible guest, remained at the tank site almost constantly for the rest of the week end; on Monday, he went to school. The Hunter accepted the delays as philosophically as possible. After all, if his quarry was on the island at all, he had no immediate prospect of leaving it. This thought so consoled him that for some days he made little effort to direct Bob's activities, and remained content to observe the island's inhabitants. He was shocked out of this attitude approximately a week after their arrival.

School had just been dismissed, and the boys had gathered as usual outside to discuss plans for the afternoon, when Shorty Malmstrom's attention was diverted by a voice calling his name, and the group was joined by another boy. They all knew him, a tall, hard-boiled eighteen-year-old named Charles Teroa, though Malmstrom was the only one who had been at all intimate with him. He had officially finished school the year before, but had continued to take special work with one of the teachers; he had, consequently, little work in common with the younger boys, though he was not above giving assistance with a homework assignment.

"Shorty!" Teroa included the other boys in the conversation with a nod, but addressed his particular friend. "They radioed in this morning. I've got it."

"When are you going? Next trip?" asked Malmstrom. "Why couldn't they have told you sooner?"

"Next trip it is; and what differ-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ence would it have made? I'm going home to pack. I know the ship won't be in 'til day after tomorrow, but there's no sense putting it off until the last minute. I'll be seeing you—and writing." The Polynesian youth was gone with an abrupt wave of the hand; and the other boys stood staring after him. The Hunter gathered from the envious remarks they let drop that Teroa had obtained a much-coveted position with the operators of the island ships; but this detail bothered him less than the obvious fact that someone was about to leave the island.

It was imperative that Charles Teroa be checked with absolute certainty, within the next forty-eight hours, for the presence of the fugitive alien; and the Hunter, for the first time since he had come to Earth, suddenly found himself tense with anxiety. Why must Bob stay with these other human beings so much of the time? Why couldn't he, right now, get off by himself so that the Hunter could tell him of the urgency of the situation? Why, in short, had all this time been wasted?

For the first time since their communication had reached a stable footing, the Hunter made use of Bob's sense of touch. The web of alien cells around the boy's arm muscles tensed, producing once again the twinges which had disturbed him so intensely that night at school when the Hunter had first tried to reveal himself. This time Bob knew what was happening; but he was almost as upset as before, since he assumed that only a grave emergency could cause such a pronounced departure from the Hunter's normal reticence.

The boy controlled himself well, however. With a muttered "In a minute," to his invisible guest, he turned back to the school building as though he had forgotten something, opened his desk, and fixed his eyes on a sheet of blank paper inside. "Go ahead," he said inaudibly, and waited expectantly.

"We must find means of examining your dark-skinned friend as soon as possible," the words appeared to flow across the paper.

"Why I neither saw nor heard anything to direct suspicion against him. He has been after that job for a long time—there's nothing odd about his leaving.

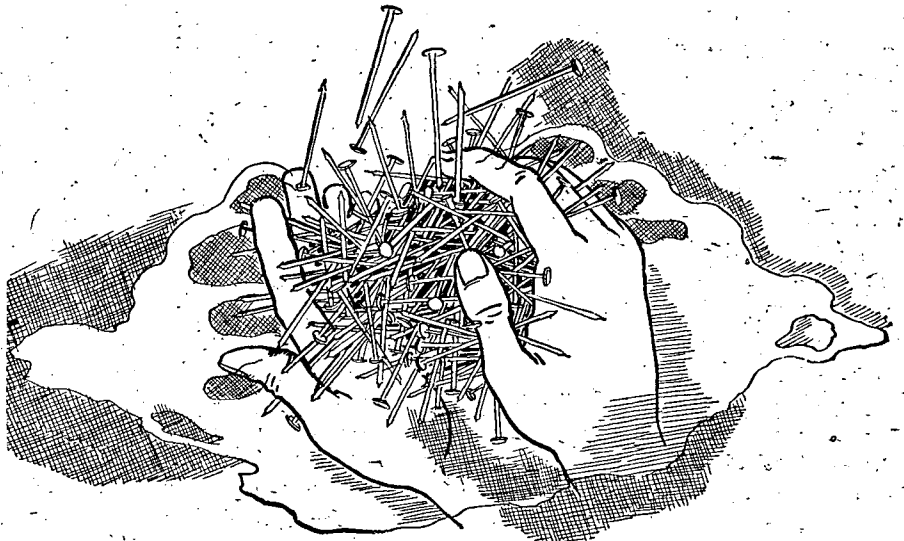
"Perhaps not; but the mere fact that he is leaving is enough. He must be checked before he is beyond reach. Also, if his probable departure has been common knowledge for some time, he has been an obvious goal for our quarry—for that very reason. He must be examined—physically, by me."

"How long will that take? Could you do it while I was shaking hands with him, or something like that?"

"No. I will have to penetrate; and that means—" he stopped, momentarily at a loss for words, as he realized just what that did mean.

"It means you will have to leave

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



me for a time. I suppose it would be best for me to get as near Charlie's house as possible sometime this evening and let you out. That would give you the night in which to work, and I could pick you up in the morning. O. K.?"

"There is one objection. I can see there is going to be trouble with the explanation, but—I don't think you'd better see me, either leaving your body or reentering it."

Bob started to ask the reason; then he paused, visualizing the situation with the aid of a very good imagination and his recollection of the Hunter's own description of his physical nature, and decided he knew the answer to his question before it was asked. Even with full knowledge of the Hunter's identity and friendly nature, there was something more than repulsive in the thought of the mass of slime that was the alien's body lapping around his hands or feet soaking in through the pores of his skin—and there would always be the lurking question, whether the formless, featureless thing which returned to him after the expedition was actually the Hunter or the quarry.

"How can we work it?" Bob changed the nature of his question.

"I think I know; but there is nothing now that you can do to help, except find out as much as you can about Teroa's movements between now and the arrival of the boat. I'm sorry I bothered you about the matter so abruptly; I acted without careful thought. I will warn you in plenty of time if there is anything else for you to do."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Bob accepted this closing remark without considering the implication of omniscience it contained—after all, he was not fully familiar, and never would be, with the Hunter's abilities and limitations, and it did not occur to him that the strange creature might not know or foresee enough to give the promised warning. The boy closed his desk and went outside, where the others were still waiting.

Teroa lived in the "village" only a short distance from the end of the great causeway; and with some idea of checking on his whereabouts as they passed his house, Bob suggested that they visit the construction site. The other boys were willing; the new tank had been a favorite haunt for most of the island youth ever since construction had started. There was naturally a large accumulation of excavating and construction wastes, which appealed irresistibly to the scavenging instinct possessed by most boys.

In a few moments, therefore, the formation of bicycles was gliding eastward along the island's only surfaced road, between houses which were starting to become more numerous on each side. Roughly half a mile from the school, at the corner where the side road ran down to the causeway and dock, was the house occupied by the Teroa family. Bob examined it closely as they passed; Charles was not visible, but he might be inside packing as he had announced. Two of his sisters were working in the rather extensive gardens around the house, and the boys waved to them; but no words were exchanged, and the bicycles were past the corner before Bob could think of an excuse to ask about their brother—after all, the boys had been talking to him only a few minutes before. Bob was afraid, perhaps needlessly, of arousing suspicion by too great a show of interest in Charles' whereabouts.

The surface road ceased about four hundred yards further on; but the path beaten when the machinery had been brought to the construction site was passable for the bicycles, and they were able to bring them all the way to the great piles of rubble that had been dug from the hillside. From this point the boys proceeded on foot toward the sound of hammering which proclaimed the starting of a new mold; the south wall had long been poured and set, as had those portions of the east and west walls which did not extend above the ground. It was now necessary to make retaining walls of wood for both sides of the walls before they were poured, and the work had slowed in consequence.

Also, since the concrete mixers could no longer pour their products directly into the molds, it had become necessary to set up a conveyor system for the fluid concrete; and work was still progressing on this when the boys arrived. They succeeded, naturally, in making nuisances of themselves a good deal of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the time; but at their age they had learned the value of making themselves more or less useful as well, and they managed to keep sufficiently in the good graces of the workers to be permitted to hang around. Most of their fathers were there, which may or may not have had something to do with it.

They stayed closest to the mold that was being constructed, for scrap lumber had the highest value in their eyes. The original hole in the bottom of their boat had been repaired with the plank found on the beach the week before; but each piece of repair work accomplished had revealed the need for another, until the job looked like one of rebuilding rather than fixing the craft. Consequently, at least one of the boys was usually out of sight, and a small stock pile of lumber was growing near the place the bicycles had been left. To do the boys justice, they always asked permission before taking any piece of wood; but they also exercised considerable care in choosing the individual who should be asked.

Malmstrom, who in addition to being the largest member of the group possessed a pair of work gloves, and Bob, who had become in consequence of the Hunter's presence more or less indifferent to such minor risks as splinters in planks, carried most of the large boards. Colby, Hay, and Rice contented themselves with smaller wood and with nails salvaged from the ground; and in rather short order the group had accumulated a supply of material which they felt would suffice to render their boat once more seaworthy. With this end accomplished, Bob advocated carrying the stuff at once to the scene of their own work—he still bore the Hunter's request in mind, and wanted another chance to check Teroa's whereabouts; but the others dissented. Hay and Colby wanted to watch the carpenters, and after a few moments' consideration Malmstrom and Rice agreed with them. Bob did not press his point, and with the others climbed the hill to a point where they could see the whole process without being in the way.

There was plenty to watch. The red head of Kenny Rice's father was visible to them, where he bent over the power saw. Mr. Hay was occupying himself with plumb line and level where the props were being nailed to the retaining wall; Mr. Kinnaird was busy with steel tape and slide rule, supplying the sawyers with advance information on the sizes of boards required; and Malmstrom's father, with a separate crew of men, was directly below the station occupied by the boys, applying a special glaze to the concrete of the south wall to increase its resistance to the bacterial waste products it would soon have to withstand. Colby, the only one whose father was not present, was most interested in this operation, and inched down the hill to the brink of the wall in order to watch it more closely.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Malmstrom followed—after all, his father was in charge of that particular job, and it would never do if a friend were to ask him something about it which he couldn't answer—and presently all five of the boys were lying on their stomachs with their heads projecting over the lip of the concrete, watching the work in progress thirty feet below.

The glaze was actually one of the fluorine-bearing synthetics, a descendant of one of the extremely inert materials developed a couple of decades before during the frantic search for a means of handling uranium hexyfluoride. It was contained in drums, in the monomeric form, mixed with one of the standard volatile inhibitors. The men were spraying this rather gummy brew onto the concrete, and boiling out the inhibitor with blowtorches; polymerization took place very rapidly, and a good deal of the wall was already coated with the glassy shield.

The men were masked, as the fumes of the vaporized inhibitor were rather poisonous. The boys were, fortunately, far enough away to be out of most of the danger—which was just as well, as none of them knew of its existence. An occasional whiff from the scene below would cause the five noses to wrinkle in distaste, but that was all the effect produced at that range. The Hunter liked the smell no better than his host, but he also failed to detect anything dangerous in it. He watched with the others, though most of his attention was still occupied with the problem of Charles Teroa.

"First a sunburn that nearly toasts you alive, and now this. You don't care much what happens to you any more, do you?" Bob turned in surprise, as did his friends. Mr. Kinnaird's tall form loomed over them, though none of them recalled seeing him leave the mold. "Why do you suppose Mr. Malmstrom and his crew are wearing masks? You'd better come along with me. You may be safe enough at this distance, but you have no business taking a chance on it." He turned away along the edge of the tank and the boys arose and followed him silently.

At the west end of the wall, Mr. Kinnaird waved an arm down toward the end of the mold. "I'll meet you down there in a couple of minutes," he said. "I have to drive home to pick up something, and if you'd care to load up your loot in the jeep I could drive it down to the creek for you." He turned and walked nonchalantly along the narrow top of the mold, thirty feet above the hard earth of the hill on the other side. Bob's throat tightened as he watched, and he stole a glance to make sure the other boys were watching, too. It was good having a father you could boast about, even if he sometimes did scare you to death.

Thirty or forty yards out on the mold, Mr. Kinnaird swung over the edge and shinned rapidly down

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

on one of the diagonal two-by-fours which braced the retaining wall reaching the floor at a point near the power saw. He exchanged a few words with Mr. Rice, placing his tape, square, and slide rule under the saw bench, and walked over to the end of the mold—or rather, to the farthest point which the builders had reached. At this point, though it was well out from the south wall, the floor was still but a short distance above the hillside; and Mr. Kinnaird jumped the few feet difference without trouble. The jeep was parked a few feet farther up the hill; the boys were not in sight, having headed for their lumber pile at full speed as soon as Mr. Kinnaird had reached the floor.

Bob's father, who missed little that went on around him headed directly for the same point, and found the boys waiting. The scraps of wood were quickly piled into the back of the jeep, and Mr. Kinnaird headed the vehicle down toward the road, followed by the five bicycles. He drove slowly—for him—but left them behind as soon as he reached the hard road. He knew, however, the place where the boys kept their own boat, so he stopped and waited for them about a quarter of a mile from his house, at the point where one of the small creeks went under the road through a culvert before emptying into the lagoon. The boys caught up with him in a few minutes, strung out over fifty yards or so of road.

Bob was well up toward the head of the procession; he had been able to give his full attention to the race after they had passed the Teroa house and seen Charles at work in the garden, thus relieving the boy of of most immediate worry. The Hunter had said nothing more, but Bob assumed the orders to keep track of the Polynesian youth still held good.

It was not possible to get the jeep down to the lagoon at this point, so the lumber had to be carried some distance down the creek. The boys had long since cut and trampled a path through the dense underbrush, so the transfer did not take too long. Mr. Kinnaird assisted, following the example of the boys in removing his shoes first. He discovered the reason for this when they splashed through several shallow salt pools with their loads before reaching the spot where the boat was drawn up on the beach of coral sand. When the wood was piled beside it, and Mr. Kinnaird spent a few minutes looking it over, some repair work had already been done. It was quite evident that much more would be needed before the craft could be trusted in rough water. He did not insult the boys by telling them so; he confined himself to a few helpful comments, and returned to the jeep. He turned back to the group just before leaving for good, and said, "I'm dodging one mistake you made, Bob; I'm getting these feet back into shoes before they're fried the way you

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

were. I'd stay and help you, but there's work to be done elsewhere." He turned and disappeared toward the road, followed by the farewells of the boys.

Colby grinned at Bob. "We should have figured out a way to make him stay a while. With his feet as white as they were, it wouldn't take long to toast his insteps like a couple of lobsters—and he wouldn't be rubbing your mistakes in!"

Bob shrugged his shoulders. "Let him. I deserve everything he's said for getting that burn; and anyway, he's more fun when he's not crippled." There was a general murmur of assent to this remark, and the boys turned to their task. A number of tools were taken from their cache beneath the upturned boat, and the saw and the plane began reducing boards to appropriate sizes and eliminating the forests of splinters which had made the used pieces of wood so awkward for the unprotected boys to handle.

Malmstrom and Bob, as before, handled these items, while the others began removing the most obviously rotten boards from the boat and tossing them over to the carpenters to be reproduced in sound wood. The work was by no means continuous; as soon as Mr. Kinnaird had left, the boys had stripped down to bathing suits, and they swam as much as they worked. The single week he had been on the island had darkened Bob's skin sufficiently to obviate further danger of sunburn, and his feet had hardened enough so that the Hunter no longer swore silent oaths when the boy ventured onto the sharp coral sand.

The Hunter had some amusement during the swims, as the sight of a crowd of pulpy disks in the water reminded him of his first fruitless attempt to get in contact with one of these boys. They still avoided jellyfish automatically, the alien noticed, except for Bob, who sailed through the group with complete indifference, and gave his invisible guest his first chance to learn why human beings did not like to touch the creatures. The poison cells of the Colenterates gave him a little annoyance, though his action in confining the poison to its point of entry and preventing its mixing with blood from the torn capillaries was almost automatic. He told himself once more that he must give a lecture to his host on the inadvisability of exposing himself too recklessly to minor injuries.

After that, the boys went back to work, and the Hunter's mind reverted to its main problem—until the next swim. A professional carpenter would have fired the whole group in the first hour, but the boys were quite satisfied with their progress when the horn of the jeep sounded from the neighborhood of the culvert, reminding them that for one, at least, of the group it was about time for supper. They stowed the tools and wood, dressed hastily, and returned to the road,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

where they found Mr. Kinnaird with the fathers of Malmstrom, Rice, and Hay. The men had debated going down to see the boat, and to take a quick swim before supper; but they had decided against it, and had taken the easy means of attracting the attention of their offspring.

The men and boys went on together, the jeep going slowly enough for the bicycles, until they reached the Kinnaird home, where Bob dropped out. His father went on to drop the others off at their respective dwellings, so the boy had a little time to himself before the family actually sat down to supper. He used it in an interview with the Hunter.

"Have you figured out what to do about Charlie?" was his inevitable first question. He had himself devoted a good deal of thought to that matter; he had accepted as axiomatic the fact that the Hunter would neither leave nor reenter his body while he was awake, and he knew that the alien could hardly travel alone the two miles or more that separated his home from Teroa's. That meant that he must contrive to sleep somewhere near the latter house; and he could see no reasonable excuse for doing so.

It was fortunate for Bob's peace of mind that the Hunter's method of communication could not carry the overtones that tend to betray more of a speaker's thoughts than he wishes. Had he acquired the slightest concrete inkling of what lay in the mind of the gelatinous being, Bob would not have slept that night. Believing as he did that the Hunter planned to leave his body, sleeping would be difficult enough in any case; but the alien's carefully planned answer tended to lull any tendency the boy might have had toward undue excitement. The Hunter had learned a good deal of psychology—not necessarily general human psychology, but a very good working set of rules that applied to the personality of his own host.

"I have worked out a plan," he answered the boy's question. "There is nothing you need do tonight, aside from your normal activities. I think I can make a test which will not require physical contact with Charles Teroa."

That statement was the undiluted truth, as far as it went, and Bob believed it. It served to ease the tension under which he had been laboring ever since the Hunter's alarm of the afternoon; he immediately drew the false conclusion, which the Hunter's words had been carefuly chosen to foster, that the alien was referring to a test which could be used on anyone without the need of the creature leaving his host's body at all. He wondered, of course, what the test could be, but he did not really expect to be told at that time; and so he settled into the frame of mind the alien had striven to produce. The Hunter felt that he had done a good job of choosing his words.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

It *had* been a good job; incredibly good, considering that the Hunter's own mind was still whirling under a mixture of the chagrin which is felt by anyone who has overlooked the obvious and wasted much effort thereby, and the shock produced by the sudden revelation of a long-sought secret. The Hunter had indeed made his plans—and a physical check of Charles Teroa, as he said, did not enter into them.

He strove, during the hours that followed supper, to calm himself; he was as excited and jumpy as a child who has seen the circus train pull in. Again and again he told himself that he might be wrong; that the evidence might point as well to others as to the one. He must prepare himself for disappointment; must, at least, calm down enough so that the hormones produced in his own gelatinous flesh did not keep his host awake. After all, why should he be right? He had been searching only a week, in a field of more than a hundred possibilities—and he could not, objectively, be sure the search object was in that field at all. Yet the idea that had burst upon him as his host worked that afternoon fitted too perfectly into all the facts—the known personality of a creature who had nearly killed one host and actually killed several others for purely selfish reasons; his own varied and unaccustomed problems in forming a working partnership with his present host; the fact that his own race was so completely unknown on the Earth—everything; everything seemed to fit. He must be right. So his emotions said; and the stern mind that kept telling him this was an incredibly childish feeling, based on an equally childish jump at conclusions, got nowhere. He was excited, and stayed excited until he was calmed down from without—until Bob, who had returned to the village after supper and become involved in a baseball game, so tired out that the fatigue acids in his body became concentrated enough to affect the Hunter.

It was dark when Bob reached home. He was curious about the Hunter's plans for the night, if any, but was tired enough to accept without question the statement that there was nothing he himself need do before the next day. He sat in the living room with his parents for a while, reading and talking, and finally went to bed. The Hunter, who had been blessing the violent activity which had reduced the boy to such an easily manageable condition, now cursed it for the production of muscular wastes—fatigue acids—which were rendering the alien equally sluggish and unresponsive at a time when he particularly wanted to remain fully alert. At least, he comforted himself, he would be completely recovered before his host had thrown off more than a small percentage of the accumulation; but in the meantime, the Hunter had a number of reasons for disliking the situation.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Once the boy was undressed and in bed, his eyes closed very quickly, cutting off the Hunter's visual contact with the outside world. Neither made any attempt at conversation; and in a very few minutes Bob's breathing, heart beat, and the actions of his involuntary muscles informed the alert watcher that he was asleep. The Hunter made no move, however, for some time after he was certain that an earthquake would be needed to rouse his host; instead, he listened, bending all his attention toward the detection and isolation of every faint wave the air brought to Bob's ears. He even extended a series of submicroscopic tendrils from the skin of the boy's forehead, answering in function to the resonating hairs in the inner ear of a human being.

He heard the birds and insects that formed the active part of the island's night life; he heard, as did everyone on the island, the steady boom of breakers on the outer reef, though its closest point was a mile away and across the hill; he heard the much nearer, but much fainter sounds of rustling paper and cloth from the living room below, as one of Bob's parents turned a page or shifted position slightly. It was these sounds to which he gave most of his attention; and he lay passive in Bob's sleeping body for a full two hours while the adults below read and talked. He was able occasionally to make out their words, though they held little interest for him. The exception to that was when they discussed their son.

"Do all boys get as careless as Bob has been lately?" asked Mrs. Kinnaird.

"What do you mean?"

"His general behavior. He knows better than to get that sunburn he had last week. I know that one mistake is nothing to worry about, but he is doing it all the time, and I'm getting worried. Haven't you seen him race downstairs in the dark, or scoop up a handful of nails from the keg as though they were sand, or anything like that? I was down past the village today, and saw him run full tilt down the side of a heap of loose rubble that's up at the diggings, as though he'd never heard of a turned ankle; even Hugh Colby came down after him, comparatively speaking, like a choir boy in church—and *he's* certainly careless enough to be banged up pretty often. You'd think that accident to Bob's ankle last fall would have made him more careful, not like this?"

The Hunter listened with understandable interest for Mr. Kinnaird's reply. It's nature did not surprise him too much.

"I hadn't noticed it particularly. All the boys are fooling around the new tank a good deal of the time. I know there are lots of ways they could hurt themselves there, but I always sort of assumed they knew what they were about. Today was the only time I saw them doing something I wouldn't do myself—

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

they were too close to the place where Rice was glazing, without masks—and I got them out of the neighborhood; but I can't see the point of keeping them from climbing around and using edged tools."

"I didn't mean exactly that. I don't mind Bob's taking the chances that come in ordinary jobs—too much, that is—but this . . . this *sloppiness* does bother me."

Mr. Kinnaird's voice sank to a reassuring muttering, and when the Hunter next could make out their words, the subject had been changed. He had heard enough to crystallize his determination to give his host a stiff lecture on personal care—and to make firmer than ever his resolve to get a certain job done that night.

At last sounds of motion and the increasing distinctness of their voices betokened that Mr. and Mrs. Kinnaird were coming upstairs. The mother opened the door of Bob's room and glanced in, then went on, leaving it ajar. A moment later another door on the same floor opened and closed. Without further delay—his excitement had again risen to the point where he probably could not have waited even had there been considerably greater reason for doing so—the Hunter went to work.

His gelatinous flesh began to ooze out from the pores of Bob's skin; openings as large and convenient for the Hunter as the exits of a football stadium. Through sheet and matress he poured with even greater ease, and in two or three miuutes his

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

whole mass was gathered in a single lump beneath Bob's bed.

He paused a moment to listen again, then flowed toward the door, and extended an eye-bearing pseudopod through the crack. There was a light on in the hall, but it was not nearly bright enough to bother him; and presently he was extended in the form of a pencil-thick rope of flesh along several yards of the baseboard. Here he waited again, for what seemed to him a long time, until the light went out and the voices stopped in the room occupied by Bob's parents. The door to this room was closed, but that meant nothing to the Hunter—even had its edge sealed air-tight, there was always the keyhole. He flowed under the dresser and waited again, this time not so, long, until their breathing indicated that both the room's inhabitants were asleep.

The Hunter already knew the differences in rate and depth which served to distinguish the two by their breathing, and, once sure they were both asleep, he made his way without hesitation to a point beneath Mr. Kinnaird's feet. A thread of flesh groped upward until it touched the matress; and within a short time the little detective was ensconced close enough to Mr. Kinnaird's ankles to feel their warmth. Then, as he had done the day he first made contact with Bob, he probed very cautiously into the yawning interstices which, for him, existed between the cells of the man's skin.

This time he did not go so deep. He had no intention of taking up permanent residence there, and—there was no need to search far. Just inside the outer cuticle, he encountered a layer that had been conspicuously absent when he had invaded Bob's body; a layer of living tissue, like the endoderm cells around it, but tissue made up of incredibly minute, viruslike cells which were arranged in an open network which reacted sharply and instantly to the Hunter's intrusion.

For an instant those utterely unhuman cells seemed trying to withdraw from contact with the invading threads; then, as though an intelligent being realized the futility of such action, they relaxed. The Hunter's flesh touched and closed over a portion of that unnatural net, bringing many of his own cells in contact with it; and along the cells of his own body, which could act equally well as nerves or muscles, sense organs or digestive glands, a message passed. It was not speech—neither sound nor vision nor any other ordinary human sense was employed—nor was it telepathy; no word exists in the English language to describe accurately that form of communication. It was as though the nervous system of two intelligent being were temporarily fused sufficiently to permit at least some sensations felt or imagined by one to be detected by the other—nerve currents bridging the gap between individuals as they bridged the gap between body cells. Being speechless, the message was wordless; but

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

it carried meaning which can be expressed in words.

"I greet you, traitorous friend of Trang the Mathematician. I apologize for my delay in bringing up my presence to your attention."

"I know you, friend of Jenver," the answer came. "You need not apologize. That you have found me at all is of minor importance; it does you no good, and you have provided me with a good deal of amusement. While I lay hidden for over three of this planet's months, indifferent to your whereabouts or existence, I see you now skulking about this island, sneaking into house after house, testing person after person—it is indeed comical. Where is your science, detective?"

The Hunter's answer was pardonably smug.

"I have been on this island seven days, and Kinnaird is the first human being I have tested physically. You are not as cleverly concealed as you thought. You have made your presence obvious to any intelligent being who knows what we are; and I repeat my apology—for wasting six and a half of those seven days."

"I do not believe you. There are no tests you could have used on a human being from a distance; and this host has suffered no serious injury or disease since my coming. Had such an event occurred, I should have found another rather than betray myself by helping."

"That I believe." The Hunter's nerves carried clearly and unaltered the revulsion he felt for such a completely selfish being. "Nevertheless, you betrayed yourself; and knowing what I now know, I do not believe that any of our species—not even a thoughtless, unfeeling, uncivilized, brute like yourself—could possibly occupy a human body for more than a few days without betraying himself in exactly the same fashion." The adjectives convey only the faintest reflection of the abysmal contempt the Hunter felt for the creature.

"Even you maintained a safety net inside this man's skin, and you have been sealing minor injuries. It was habit; you could no more have avoided it, with the consequent risk of a dozen infections a day and consequent inconvenience to yourself, than I could. You were bracing joints as I was—inconspicuously, of course. Had this man suffered from serious injury you would probably, as you say, have deserted him; but you could not, to save your precious hide, avoid doing everything in your power to dodge that necessity and its attendant inconvenience to yourself. You have shown considerable self-restraint in refraining from the experiments in personal control which killed a number of your earlier hosts and nearly killed Trang; but you would have resumed them sooner or later—since you are mentally unable to work in partnership, you must be in charge.

"That covers the two possibilities:

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

you might have lain even lower than you did, failing to betray yourself until you sought control of your host; or you could have done what you did do—act normally except for the selfish restraint that would have kept you from giving help when it was needed."

I can understand how my efforts at control of this big, stupid creature could reveal my presence," the answer came, "but how could the sealing of minor wounds which no one saw, or the prevention of diseases and muscle or joint strains which my host never caught, betray me? You can't single out a man because he *isn't* sick or injured."

"Nearly true. There is, however, one person who would notice your sealing of minor wounds—or would, at least, notice that he was not suffering as much as usual from such wounds: *your host himself*. Such a realization must inevitably show up in his attitude toward the commoner sources of such minor injuries. Your host has climbed up and down on boards that should have filled his hands time and again with splinters; he has carried and thrown around smaller but equally rough pieces of wood; he has walked indifferently over patches of coral sand, though his feet are soft from constant wearing of shoes—so constant that the skin has not been affected by sunlight. He has let his hands come close enough to the blades of a running power saw to frighten other humans who saw him—his actions ever since I began watching him are those of a being utterly indifferent to ordinary risks of minor personal injury; and I know from other sources that that attitude is a surprise to other human beings who know him. No, my friend, you cannot pride yourself on a good job of concealment. As I have showed you, you could have done better by doing nothing whatever; but that would have left you with *nothing* to do but control, and no intelligent being can remain perfectly inert for a very great period of time. Even on Earth, without skilled assistance, experience with the natives, or science to help me, you were certain to be found if only I came into the right neighborhood. You were foolish to flee Allane in the first place."

It took the fugitive a short time to digest this, though the creature was by no means stupid; but finally an answer came.

"I do not say I agree; but granting for the moment that you were certain to find me, what good does it do you? You have no selective drugs to drive me out of this hiding place, and no means of making—or at least, testing—any. Being what you are, you will not consider sacrificing my host to insure my destruction; and I will have no such scruples about yours. It seems to me, Hunter, that finding me was a serious mistake on your part. Before, I was not even sure you were on this planet; now I know you are here, and cut off as I am from home

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

and help. 'I am safe enough; but watch out for yourself!".

"Since nothing I could say about the statistics on the results of criminal tendencies could convince you of your errors, I will leave you with that impression," replied the Hunter. Without further communication he withdrew and in a few moments was flowing back towards Bob's room. He was furiously angry with himself—the pleased excitemen he had felt an hour before had evaporated without a trace. The fugitive had been quite right; finding the creature—or at least, letting it know it had been found— had been a serious mistake. The situation was just as the criminal had outlined it; the Hunter could never take any measure that might injure Mr. Kinnaird, while his opponent would have no such scruples concerning the well-being of any human being. What was worse, the Hunter realized perfectly well that he had said enough in the recent conversation to tell a far more stupid creature than his adversary precisely where the Hunter himself could be found. He could almost see the creature recalling Mrs. Kinnaird's words earlier in the evening; and the Hunter had said in so many words that he had been on the island only seven days. There were, of course, two possible reasons for that; but there was little doubt that the other being could and would pick the correct one. That meant that the Hunter was in grave danger, which was bad; and it also meant that Bob was open to attack, which was worse—after all, he was a good deal more susceptible to mechanical danger than his guest.

If it had not been for the Hunter's scruples—or his enemy's lack of them—the situation could have become a stalemate, with each of the aliens safe just as long as he stayed with his host; since they were the only ones of their species on Earth, a mutual tolerance agreement might have been patched up. The chance of rescue, after all, was nil; Allane did not know where they were in space, to say nothing of their position on the planet.

As things were, however, there was a shrieking necessity for speedy action on the Hunter's part; for there was nothing more certain than the fact that the other alien would embark on some deadly activity of his own as soon as it had time to decide just what to do. Whatever the Hunter did must be speedy, effective and conclusive. Nothing less would save his life and Bob's

One decision had to be made first of all: Should Bob be told, or not? The Hunter had been reluctant to give him the information when it was a strongly based, but unproved, suspicion, feeling that there might be a good deal of emotional upset in consequence; now, however, it was a question of whether or not the knowledge was essential to the boy's safety. After much thought, the Hunter found many arguments on both sides of the question, but was unable to reach a decision. He

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

postponed returning to his host's body for the time being, and took up a station near the door of the youngster's room. He could at least stand guard while he thought.

And slowly those thoughts began to produce results. He had one priceless advantage over the other creature. His host was not simply an unwitting, unsuspecting physical shelter and food supply like Mr. Kinnaird; he was a *companion*, a being who knew all about the Hunter's presence, understood and sympathized with his purpose, and was intelligent enough to co-operate effectively in the Hunter's plans. That was the only advantage the Hunter had, so far as he could see; and that meant that the boy must be told the whole truth, since in no other way could his co-operation be made effective. No matter what feelings were aroused by the knowledge, they had to be risked. After all, Bob was approaching maturity, and should be able to keep his head in the face of danger, whether it was to himself or one of his family; and if he did seem disposed to lose courage, the Hunter thought he knew the boy's personality well enough to provide moral support. At any rate, he hoped so.

That, at least, was one step decided. Now, if he were to use Bob's help, what could the boy do that the Hunter himself could not? That was easy to answer; he could move around rapidly, perform mechanical operations at once complicated and arduous, and, best of all, he could communicate rapidly and easily with other human beings—including his father. There must be something in that list of capacities which could be put to work.

With a clearly stated problem and set of operators, the Hunter could think—clearly and effectively. Within minutes he had worked out a plan which seemed to promise results, and which would endanger neither Bob nor his father; two prime requisites in any course of action in which the Hunter and his host were to co-operate. The Hunter would not risk Bob, and Bob was unlikely to risk his father.

With his course of action settled, the Hunter waited where he was until the faint light of dawn began to brighten the sky; then, knowing that Bob was likely to awaken before too long, he hastily returned to the shelter of his host's body.

Some time was spent in readjusting himself in his former quarters and reestablishing his sensory and feeding connections; and it was not long after he had finished that Bob awoke. He had apparently gone to sleep with some vague doubts about the Hunter's plans for the night, for the first thing he did was to ask the Hunter whether or not he were still there. The alien answered; and, on being asked whether anything had occurred during the night—Bob, of course, knew that his companion did not ordinarily sleep—the Hunter told the whole story, without reservation or evasion of any point.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The boy was shocked, naturally; though, as the detective noted with approval, his anxiety was apparently more for his father's plight than his own. There was also a slight leavening of chagrin, over his own failure to recognize and interpret the clues which the Hunter had enumerated, and which now seemed so obvious. This feeling also pleased the Hunter, since with a little careful managing it might be increased to the point where it would mask all the boy's natural fears.

Bob was quick minded, as the Hunter had long since realized; he saw at once the situation in which he and his guest were held, and recognized without being told the need for immediate action. His first question after the story had been told also showed that he recognized at least roughly a portion of the necessary course of the action.

"What will make your people leave a host's body?" asked the boy.

"What would make you take a walk outside this house?" countered his guest. "There might be many reasons, and the cause that might motivate one might not effect another in the slightest. I know what you mean, however—what would *force* one of my kind into the open?

"At home, I could use any of a number of drugs or specialized viruses; here, they are not available, and probably untrustworthy. I am forced by circumstances to forget all the standard methods, as I was in the problem of locating our friend, and devising something based on the peculiarities of the situation in which we find ourselves. Just as psychological clues had to be used to find him, I think psychological forces will have to be used to coerce him; and that will be extremely difficult, because he knows he is safe in your father's body, and will be extremely reluctant to leave it. It occurred to me that, knowing he had been located, he might try to shift hosts—perhaps to your mother, as the most accessible alternate; but I think he would not want the distraction of adjusting himself to a new body at a time when he knows he must watch out for me.

"I think, therefore, that we can concentrate on your father for the time being. Remember that you can probably do far more than I, since you can influence his actions to a considerable extent, so start thinking of a plan. You know the character of our fugitive, and can guess as well as I what would move him; you know your father better than I, and should be able to lead him into any course of action you want. I have a plan, but have some serious objections to it, and will use it only as a last resort. In your own idiom, Bob, you are carrying the ball."

The boy nodded silently in acceptance of the situation, and stood buried in thought for some time. Though the Hunter could not read his thoughts, it soon became evident that they followed the same course as his own had done a few hours earlier.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"It seems to me that that thing would leave Dad only in the face of some apparently unavoidable danger that would destroy them both," Bob said at last. "It might under ordinary circumstances also leave if Dad became so ill as to be useless to him; right now, though, it would probably do his duty in such an event and go to the trouble of fighting the disease rather than risking departure. I don't know anything about its courage, so I can't say how real the danger would have to appear to scare it out; but that seems to me the only key to a solution of this problem."

"Very good, and very true," responded the Hunter. "I had reached the same conclusion. What follows?"

"We must so arrange matters that Dad will appear about to go into a situation of very grave danger—but somehow, we must assure ourselves that there is no risk of his actually doing so. That offers quite a problem. Then, while I don't really know too much about you, it seems to me that there are comparatively few situations which would offer serious danger to one of your people; isn't that right?"

"It is. Mechanically, we have little to fear. The basic dangers would be extremes of temperature, bad chemical environments, and lack of food. The last is out of the question, since the flesh of a human being would last our friend for years—would last him for weeks without seriously damaging the man. The other two . . . well, take your choice."

Bob nodded again, and thought for a few moments.

"Heat, I guess," he finally said. "Easiest, and least suspicious. They're always having fires down around the storage sheds and dock, from the gas and oil. But I can't imagine Dad walking into one," he added as an afterthought.

"I can think of at least one situation in which he would," the Hunter's calm answer flickered before the boy's eyes. Bob frowned a moment in thought, then more deeply as understanding struck him.

"Yes. If he thought I were in it, or Mother, or perhaps some other person—a kid for choice. But I don't like the idea of tricking him like that; and how could he be made to stop in time?"

"As far as not liking it goes, neither do I; but would you prefer the present state of affairs to a few minutes of mental anguish for your father? And you need have no fear of his not stopping in time; if he fails to do so on his own, our friend would take care of the matter to save himself."

"How?" asked Bob instantly. "Neither you nor any of your people could do it by muscular strength—you haven't any to speak of. The only other way I can see would be to block blood vessels going to the brain, or tighten up on motor nerves, or something like that; and I shouldn't think that creature would be very careful not to hurt Dad in

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the process." Bob had learned quite a number of anatomical terms from his reading since becoming acquainted with the Hunter.

"But he would. His idea would be to stop your father from going on; he would interfere with his sight, perhaps, as I do in talking to you, only more so. Then, since your father would certainly go on, he would use the nerve pressing technique in an attempt to head him off, as we do in training the *perits;* since not even that would stop your father, I should say from what I have seen of the man, our friend would leave. There is a standard spinal-cord massage for paralyzing refractory animals temporarily, and his natural tendency would be to use that. Since you are an intelligent person, it would be fruitless to deny to you that there is *some* risk; but my considered opinion is that the danger is less than if that creature were permitted indefinite residence in your father's body."

Bob was tense and worried now, his face set in a frown of concentration that made him look older than his fifteen years. He was silent again for a minute or so; then,

"I want you to work that standard paralyzing trick on me, right now. You don't know yet how it works on a human being, and it's one thing on which we don't have to trust to luck."

"*You* are trusting to luck in such a test," pointed out the Hunter.

"If you are too doubtful of it to risk me, I'm too doubtful to risk Dad," was the answer.

The Hunter was in a spot, with his inhibition against harming his own host almost paralyzing *him.* In their general engineering, the human and Allanese bodies were very similar, and almost every Allanese organ had an equivalent structure in man. The Hunter was reasonably sure that the technique he had mentioned would result in no permanent harm to Bob; but there was always that little bit of doubt—the sort of doubt a test pilot feels as he starts the first take off of a plane he has seen through its wind-tunnel tests. He hesitated; then—well, a *little* pressure could do no harm. He agreed.

Bob sat back on the bed and waited. For a moment nothing happened; then without warning, he lost his balance and fell over backward. For a moment he was able to move his arms and legs; then they refused to respond, and he lay inert.

"I have stopped pressing," the Hunter's words flowed across the ceiling. "It took more pressure for you than for my old host, and you are recovering faster. I was very careful, and touched only your motor nerves; you can still feel, you will note."

Bob was not in a position to consider the incredible discriminatory ability the Hunter had displayed; for the moment he was too anxious to determine whether or not the alien were correct about his imminent recovery. He was; and in two or

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

three minutes the boy was able to sit up and use his limbs normally.

"It was a funny sensation," he remarked, "but nothing seems to be wrong. If I can take it, I guess Dad can."

"Easily," replied the Hunter. "If he relaxes at the first pressure, the criminal may not take time to make sure he is totally paralyzed—as I said, your people seem to take more pressure than our usual hosts.

"There is another possibility on which you might work, as well. While there should obviously be no chance taken betraying our plan to his guest, perhaps you know some means of letting your father understand in advance that the whole thing is going to be a joke. That would eliminate his worrying, and the danger of our friend's failing to stop him in time.

"I can think of no means of doing that, myself; but family life here seems rather similar to that on Allane, and perhaps you and your parents have some private means of communication. If so, and you are sure our friend has had no chance to learn it, go ahead and make use of the fact. Remember, we cannot read minds."

Bob brightened up considerably at that suggestion, and without further remark finished dressing. The Hunter did not interrupt; though not a mind reader, he could tell the boy was thinking, and knew from the tension of the muscles responsible for facial expression that his ideas were pleasant.

There was a slight hitch in the plan to start action immediately; it was not yet Saturday, and Bob had to go to school. There seemed little chance that they could be attacked there, but the Hunter could not keep from worrying about the delay. The moment school was dismissed, however, Bob went to work, without waiting for direction or advice from his hidden guest.

Telling the other boys that there was "something he wanted to look up" by himself, he left his bicycle by the schoolhouse and struck off on foot toward the east. For perhaps half a mile he passed among the houses and gardens that made up the "village" before his course carried him over the ridge of the island, which was at its lowest at this point. Where the gardens ceased, heavy undergrowth began; all the volcanic soil of the island that was not directly under human cultivation was covered with a conglomeration of tropical and temperate vegetation, some of it natural and some of it originating from the biological laboratories—the company which operated the oil producing tanks had experimental labs on several islands of the Tuamotus, and sometimes the seeds of a new variety got out of hand.

There were a few paths through this dense growth, but Bob did not bother with them. As soon as he was sure that he was out of sight from the village, he turned northeast, paralleling the shorter leg of the island, and made the best time he

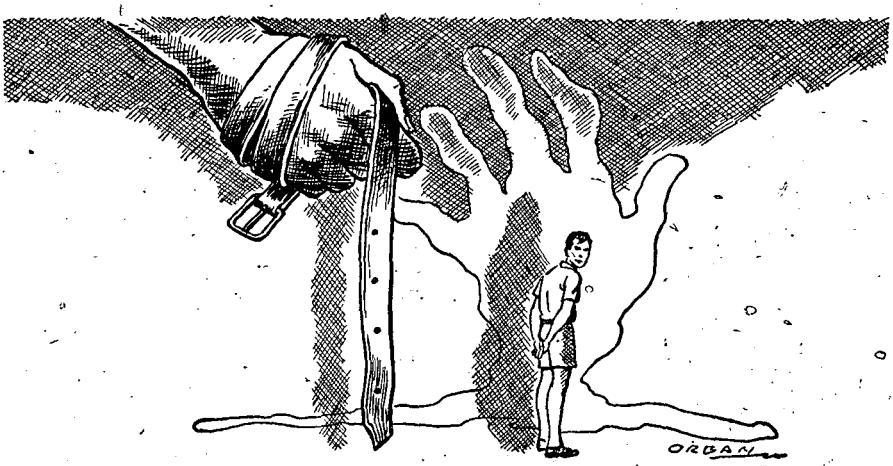
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

could under cover. The ground began to rise slowly; village and lagoon were soon hidden by the swell of the ground on his left, while on the other side he began to catch glimpses of the line of surf that marked the reef to the southeast of the island.

After about a half a mile of this shallow climb, he reached a small brook, and turned directly uphill—almost due north; and another three or four hundred yards brought him to the hilltop, the highest point on the island. The sounds of men working and talking were distinctly audible here, for he was only a short distance above the new tank. He crawled cautiously through the brush until he could see clearly all that lay below, and examined the situation carefully.

Down the hill to his left, between him and the nearest part of the lagoon, were five completed tanks. These were in normal operation, and nobody was around them. Still further to the left, near the end of the road, was a small group of corrugated iron storage sheds; and it was these which claimed most of Bob's interest. They were concealed from direct view of any of the workers by the completed tanks; and none of the workers showed signs of leaving the new installation in the near future, so that he might glimpse what was going on near those sheds, That was all to the good.

At first, Bob could see no sign of his father, and he waited about fifteen minutes for that reason. Finally, however, the jeep popped into view from behind a corner of the new flooring, where it had been hidden from the boy's view; and he was able to recognize Mr. Kinnaird behind the wheel as the little vehicle jounced down toward the road. There was an empty drum in the back seat, and Bob, after watching



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the jeep vanish down the road, and a few minutes later, reappear on the causeway headed for the loading dock, made the rather obvious deduction that he had gone for a refill. He was quite correct; the glazing compound, in spite of its inhibitor, did not keep very well and was in consequence prepared as needed in one of the smaller processing vats, and Mr. Kinnaird had gone for a fresh supply. The point that interested his son, however, was that he would shortly be coming back the way he had gone; and with a little reasonable speed and a little more luck the stage could be set for his arrival.

Bob withdrew into the undergrowth and worked downhill as rapidly as he could under cover. Opposite the storage sheds he emerged and darted across the track the jeep and the construction machinery had left between the road's end and the new tank, and ducked into the first shed.

It was empty, which caused him to wear a worried expression for a moment; then he nodded as he saw how this would fit in with his plan. He checked all the buildings in turn; all except the first had at least some oil in storage—and some were so full there was barely room to move storage drums in and out. Bob knew the code in which the containers were stenciled, and kept his eyes open for a particular type of liquid.

He had confided no details of his plan to the Hunter, but that being remained inactive as the search progressed—he was willing to believe that his host could handle the present situation at least as well as he.

The boy's haste—he stopped frequently to make sure the jeep was not returning—delayed him somewhat; but finally he located the articles he wanted, and set to work with them. First, he stacked a number of empty five-gallon cans by the door of the shed nearest the track. The ground around the pile he soaked with the contents of a similar can—a liquid about as volatile and inflammable as kerosene. A can of much heavier oil was poured over the stack of empties, and one or two full ones added to the pile. It was, on the whole, a rather good bit of showmanship, and anyone examining it would readily have admitted that Bob was familiar with the island products. He had the makings of a very showy and smoky bonfire, with a negligible risk of explosion. An oil worker seeing that stack of containers, which were used principally for light fuels, surrounded by flames would undoubtedly be deeply moved—to put it mildly. If he did not know the storage shed behind it was empty, his feelings should be even more profoundly stirred; and Mr. Kinnaird had nothing to do with the storage and shipment of the island products.

The Hunter was not in possession of all these facts, but enough was obvious to outline the plan to him. He had no fault to find with it, and the only suggestion he had to make

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

when Bob finished and settled down to wait for his father was that another can of oil be kept ready near at hand. After all, if the fugitive did emerge, the whole point of the plan was to be able to do something about it.

Bob seemed thoughtful when this was pointed out to him; as a matter of fact, he had given no real thought to the fact that his plans were aimed at the death of an intelligent creature. He had attended his share of movies, but the actual prospect of killing bothered him more than he would have liked to admit. It took several seconds for him to recover his earlier viewpoint—that he was eliminating in rather drastic fashion a deadly disease that had attacked his father.

The Hunter did not have a very clear idea of what was going on in the boy's mind, but wisely made no attempt to intrude on it. To his intense relief, the mood of hesitancy seemed to pass in a few seconds, and the two waited silently for the return of Mr. Kinnaird. They watched from a window of the storehouse, from which they could see the causeway and a few sections of the road from it. Bob held a book of matches in his hand.

It must have taken Bob's father about twenty minutes to get the drum cleaned and refilled, but finally appeared on the causeway, driving at a pace that fully justified the Hunter's deduction of his attitude toward personal injury. Even Bob nodded slowly as he saw the little vehicle racing toward the land. They watched until it reached the shore and disappeared among the sheds clustered near the end of the causeway; then they moved to the door of the shed and peered cautiously out, Bob holding a match ready to strike.

They heard, and Bob interpreted, the sound of the little car coming up the road; the speed of the engine changed audibly as it reached the end of the hard surface, and Bob went into action.

The first match he struck went out in the air as he tossed it out onto the oil-soaked ground; with hands that trembled with haste, he lighted another, held it until it was burning strongly, and dropped it from a height of a few inches at the edge of a puddle of oil beside the door. This time the fluid ignited, and the boy sprang back as a sheet of flame leaped into the air. In a second or two before the car came into sight around the lower sheds, the pile of tins was blazing merrily, and the doorway through which Bob and the Hunter were peering was blocked by a yard-wide pool of liquid fire.

Mr. Kinnaird saw the blaze, and reacted instantly. He had no extinguisher large enough to cope with the situation in the jeep, and he shoved the accelerator down to the floor and headed up the hill to get help. Just before he passed the door of the shed, however, Bob called him from inside.

"Dad!" He said nothing else—

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

if his father wanted to conclude he was in danger, that was all right, but Bob was not going to lie about it. He expected his father to stop the car, start toward the shed on foot, and be stopped by the fugitive in the manner outlined by the Hunter; but he underestimated both the ingenuity and the reaction speed of his father.

At the sound of Bob's voice, apparently from the interior of an inferno, Mr. Kinnaird took his foot from the gas pedal and cut the wheels hard toward the shed. His intention was at once obvious to Bob and the Hunter; he meant to bring the vehicle's hood right up to the door, gaining momentary protection for both Bob and himself from the flaming pool beneath, and back out again the instant the boy could leap aboard. It was a simple, flawless plan, and should have worked. Had it done so, Bob and his guardian angel would have had to provide a new plan of their own—and some rather detailed explanations.

Fortunately—from their point of view—another factor entered the situation. Mr. Kinnaird's hidden guest grasped the situation almost as rapidly as the man himself; but unlike his host the alien creature had no intention of risking itself any closer to a pile of flaming oil containers which from all appearance, might be expected to blast a rain of fire over the neighboring landscape at any moment. They were already within twenty yards of the blaze—man and symbiote alike could feel the heat—and there was literally no way on Earth by which the latter could force his host to turn the jeep around and drive in the opposite direction. Had the thing wasted even a second in thought, it might have done better than it did—had Mr. Kinnaird merely been blinded, as the Hunter had indicated was likely, he might have stopped the car. There is room for doubt, of course; he would have had a searingly clear mental image of his only son in the midst of the flames. No one will ever be certain, for the alien, in the panic of the moment, performed automatically the operation considered by his race the last resort in preventing suicidal action on the part of their domestic animals—only under unthinkable tension would most of them do it to their regular hosts, without permission. The web of alien cells about Mr. Kinnaird's spinal cord constricted in certain special areas, and the man sagged forward across the wheel of the jeep, paralyzed as completely as Bob had been a few hours earlier.

The vehicle, however, was still in gear; and it continued forward with the man's weight holding the wheel in a shallow turn. Its speed was low, since his foot had slipped from the gas pedal; and that probably saved him a broken neck when the jeep sailed blithely into the corrugated iron wall of the shed, five or six yards from the door at which he had been aiming.

Bob, of course, was startled by this unexpected development—

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

everything had happened in too short a time for his wits. His first impulse was to leap the pool of fire by the door—a safe enough procedure, if he held his breath—and go to his father's aid. The Hunter, however, interpreted correctly the tensing of his muscles, and stopped him almost harshly.

"No! He is safe enough—he is farther from the fire than we are. Get out the window, where the other won't see you, and have the oil can ready!"

Bob was in no state of mind for calm thought, and almost anyone could have given him orders at the moment. He turned at once to follow the Hunter's behest; but, remembering that his father was almost certainly conscious, he called as he went.

"N'aie pas peur! 'L y a des fenêtres" in the island French that still lingered on in the Tuamotus. He was reasonably sure that the enemy would not have heard enough of it spoken to interpret the reference to windows, and infer the probability on an early rescue; in any case, he probably could not have kept silent, knowing the mental anguish his father must be suffering.

As he spoke, he leaped for one of the windows—simply an opening in the sheet metal, in a wall at right angles to that in which the door was located. At the same instant, though the boy did not know it, one of the full cans in the stack was ruptured by the heat.

Bob had chosen the liquid well. There was no explosion, which would have sent flaming oil out in a wide radius; the can simply gave along its soldered seam, and a tide of fire welled out, poured down the stack of cans, and, thinned by the heat, began to spread rapidly around the base of the pile. A moment later the other full can added its contents to the expanding lake of fire.

Bob, fortunately for his peace of mind, did not see this; he was climbing through the window twenty yards away, still carrying his oil can, with several sheets of metal in between. Neither did Mr. Kinnaird, who had been blinded as well as paralyzed by his unsuspected guest; but the creater itself saw only too well.

The plan of Bob and the Hunter had not quite gone according to schedule; but the situation they had hoped to bring about had finally occurred. Mr. Kinnaird, even if the nerve pressure were relaxed, could not possibly recover the use of his limbs for several minutes; there appeared no possibility of anyone's reaching him in time to effect a rescue, though shouts from up the hill suggested that the pillar of black smoke from Bob's bonfire had attracted attention; and the alien, true to the Hunter's prediction, was faced with a problem which, to one of his proven temperament, offered only one solution.

Bob, cautioned by the Hunter, peered carefully around the corner of the shed before following his

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

natural urge to dash to his father's rescue; and the Hunter, looking through the same eyes, saw what he did. Mr. Kinnaird was still slumped over the steering wheel; his eyes were open, but it was not possible to tell whether or not he could see. The body of the jeep concealed from the watchers the degree to which the puddle of oil had spread, and neither of them realized how close the flames had come to the car. Their eyes riveted on a point beside the paralyzed man.

On the narrow space of seat to the left of his motionless body, a blob of greenish semiliquid was spreading. Its shape was obviously under intelligent control; instead of spreading out and flowing to the floor, it kept in a small space, remaining on the cloth covering of the seat and sedulously avoiding contact with the already warm metal of the jeep. As they watched, it reached carefully over the metal side, and established contact with the ground below. It winced for a moment as it went below the protection the car body furnished from the fire's radiation; but evidently it decided that a little now was preferable to more later, and the tentacle remained in place while the whole weird body flowed through it and assembled itself on the ground. The arm disappeared into the main mass, and with a surprisingly rapid amoeboid motion the thing began to flow away from the car and fire, directly toward the hidden watchers. It remained in the shade of the shed roof for the time being, but that point did not interest either Bob or the Hunter.

As the fugitive started to move, the boy's muscles tensed; and this time the Hunter made no objection. They rounded the corner at Bob's highest speed, and raced toward the car. The alien saw Bob coming, and stopped his journey for a moment; two or three pseudopods appeared, as though it considered attaching itself to the boy; then the realization that he was heading back toward the fire, which it had no desire to approach for any reason, seemed to cause the creature to hesitate, and before it could come to any constructive decision Bob had passed it in a single bound and was at the stalled car.

For the first time, he saw how close the fire had come, and felt its blistering heat; but he wasted no time in expressing surprise or dismay. He pushed Mr. Kinnaird's body from behind the wheel and got into the front seat himself. He had driven the vehicle often enough; and while the menacing thing on the ground was still making up its mind, he had started the engine and backed the jeep out to the track, fifteen yards away. There he stopped, leaped out, and, still bearing his oil can he dashed back toward the shed, wrenching frantically at the can's cap as he went.

The alien was still fairly close to the fire, and seemed to be suffering some inconvenience now that the slight protection of the jeep's body

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

had been removed. It had resumed its journey toward the corner of the shed, and seemed to make an effort toward even greater speed as the boy approached. It must have known that the Hunter was also present, and by then had certainly realized that Bob was participating intelligently in the hunt, and it made one final effort. Knowing that it could not possibly outspeed the human being bearing down on it, the creature stopped where it was, assumed a hemispherical form, and began, very slowly, to dwindle in size. The Hunter knew what was going on—he had used the same trick to approach Bob, that first day; but the ground on which the shed was built was a very different proposition from the sand of the beach. It was harder, moister, and much more solidly packed; the space between grains was far smaller, and more completely blocked with fluid. Long before any significant part of the creature's mass had soaked into the earth Bob had arrived on the scene, with the cap finally removed from the can of oil.

Without showing any sign of the hesitation he had displayed earlier at the thought of killing, the boy began pouring the sticky liquid over and around the dwindling mass of jelly. When the container was half empty he stopped pouring, and swung it violently, sending a trail of oil from his newly made pool to the blaze raging ten yards away. Then he dropped the can and ran back out of the already uncomfortable hot area.

The trail caught fire rapidly enough; but the oil was heavy stuff, and the flame did not spread as rapidly as he would have liked. After watching for a moment, Bob whipped out his book of matches once more, ran to the edge of the pool which surrounded the still visible body of the alien, ignited the whole folder, and tossed it as accurately as he could onto the center of the oil-covered lump of jelly. This time he had no occasion to be disappointed or doubtful; he barely got himself away in time.

The Hunter wanted to stay until the fire had burned out, and make sure of the results; but Bob, once he had done all he could, turned his attention at once to his father. A single glance at the inferno surrounding the fugitive's last known position was enough for him. He ran back to the jeep, glanced at his father's still motionless form, and sent the vehicle jouncing down the track toward the doctor's office. The Hunter dared make no remark; interference with the boy's eyesight at the speed they were making would have been a serious error.

Mr. Kinnaird had been able to see ever since the alien had left his body; he had been conscious the whole time. Unfortunately, the paralysis endured for some time after being administered, and he had not been in a position to see very well what went on by the shed. He knew Bob had stopped at what seemed to him dangerous proximity to the fire, and gone back for something; but he

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

did not know what; and struggled all the way down the road to get the question past his vocal chords.

He recovered enough to sit up and talk shortly before they reached the doctor's office; and the questions began to pour forth as the jeep pulled up before the door.

Bob, of course, was relieved to see the recovery; but he had developed a rather serious worry of his own in the meantime; and merely said: "Never mind about what happened to the shed and me; I want to find out what happened to you. Can you walk in, or shall I help?"

It was a well-phrased question, and shut the elder Kinnaird up with a snap. He emerged with dignity from the car and stalked ahead of Bob toward the doctor's door. The boy followed; normally, he would have been grinning in triumph, but a worried expression still overcast his face.

Inside, the doctor finally obtained a more or less coherent idea of what had happened from their two stories, and ordered Mr. Kinnaird to get on the examination table. The man objected, saying that he wanted to learn something from Bob first; but the doctor insisted; and Bob, muttering something about having left the engine running, hastily went outside again. The worry that was working on him was not for his father, who was no worse off than Bob himself had been.

Outside the door he stopped, and, making sure no one was around, he spoke to the Hunter.

"What are you going to do, now that your job here is finished? Go back to Allane?"

"I told you that was not possible," was the silent answer. "My ship was totally wrecked; and even if the other was not, there would now be no way on earth to locate it—I got the impression during my brief conversation with the fugitive, that it, like mine, fell in the water but that its occupant had taken much longer than I to reach land. His ship was probably damaged beyond repair, and, if not, it is probably somewhere in the very deep water around this island. You told me the depth was over eighty fathoms within a half mile of shore.

"I have a rough idea of how a spaceship works, but I could never build one—I told you that. I am on Earth for life, my friend. Whether I am your companion for life depends on you—we do not force ourselves on those who do not want our company. What do you say?"

Bob hesitated, looking back across the village toward the pillar of black smoke that was now thinning over the hill. The Hunter assumed he was considering the advantages and disadvantages of the proposed alliance, and felt a little hurt that there should have been any hesitation; but he did not yet know Bob fully.

The boy was intelligent for his age, as was evident enough; but he

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

was still a boy, and was still apt to consider his immediate problems before indulging in long-term planning. He spoke at last, however; and the Hunter never did find the words to express his own feelings at what he heard.

"I'm glad you're staying around," Bob said slowly. "I was a little worried about it. I like you, and you can certainly help me right now. There's one problem that I didn't consider very carefully when I made up this trap for your enemy, and now we've got to have an answer.

"In a few minutes, Dad is going to come out that door with his mouth full of questions and his eye full of fire. One of those questions is going to be, 'How did that fire get started?' I don't think the fact that I'm fifteen will make any difference in what'll happen if I don't have a very sound explanation for it. I didn't stop before to think of a good reason, and I sure hope you can find an answer for me now. If you can't, then get to work on the job of toughening up the protective net you've told me you maintain under my skin. I can tell you where it's going to be needed most!"

THE END

HOW TO DO IT DEPARTMENT: MULTIPLICATION

Among poll suggestions for added features were requests for puzzles. Here's an old—pre-modern-methods system of multiplying two numbers. It works every time. Problem: Why? It's apparently ridiculously arbitrary.

To multiply the numbers, write each as the head of a column. Divide the lesser by two successively, ignoring fractions, until you reach 1. Parallel, multiply the larger by two, successively, an equal number of times. Cross out the multiplicands in column two corresponding with *even* numbers in column one. Add the remaining figures. That's the answer. Type-face limitations prevent crossing out in the example below; consider the italic figures crossed out.

37	times	82
18		*164*
9		328
4		*656*
2		*1312*
1		2624
	Total	3034

Works every time, despite apparent arbitrary rejection of fractions and even-man-out rejection. Why?

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

MINORITY REPORT

BY THEODORE STURGEON

A fascinating basic idea; Mankind faced with the hopeless problem of being all dressed up with interstellar spaceships, and no place to go!

Illustrated by Orban

This is the strange story of Dr. Falu Englehart's change of heart and the truth of how he turned from a dedicated lifetime to tear down his dream. It can be told now because, in the matter of the Titan invasion, humanity has shown itself, en masse, to have come of age—to have reached a stage of understanding.

For we in this twenty-eighth century are a strange race, only now entered upon our Third Phase, the first being an age of faith—and ignorant superstition—and the third of understanding—and tolerance. The years between are a hell and a horror—the accursed five centuries which began in the eighteenth century, and which ended in near suicide in the twenty-second—years in which faith was destroyed and understanding not yet achieved.

It can be told now because it cannot hurt us. Had the story been circulated in those mad years of the Second Phase, it would have dealt a blow to humanity's belief in itself from which it might never have recovered. Humans knew what they were, even then; but during that violent adolescence they went to insane lengths to prove that they were otherwise—that they were supreme.

When the Titans descended upon us fifty years ago and dealt their insignificant portion of death and ruin, we answered as an understanding people would. We recognized in them our counterparts, a race in the throes of the disease called conquest. We are a peaceful species, close to the land; and they did not understand that our farms and our city-less planet represented, not a primitive society, but a society fulfilled. They took our achievement for a stasis or a recidivism, our decentralization as a sign of the primitive. When we immobilized them without machines—and like all very young humanoids, they worshipped machines—and defended ourselves by the simple expedient of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

teaching them their own terrible, acquisitive history, why, we did not dam their stream and drive it back, like sweating savages; we dried it up. So much for that well-known tale; it does, however, demonstrate one of the ways in which we have proven our maturity, and our fitness to hear the strange story of Dr. Englehart.

Falu Englehart was born, to quote Umber's epic poem on his life, "with stars in eyes that were myopic to all earthly things." At nine he built his first telescope, and at twelve he developed a new technique for cataloguing novae.

He lived in the uneasy peace of the twenty-first century, when the world was an armed mechanical thing which seized upon a race to the stars as a means to absorb its overproduction while maintaining its technology.

The Gryce Expedition lit a fire in the boy Englehart which nothing could extinguish—nothing but his own incalculable energy, which he turned so strangely on it when he put it out. The epic is in error when it states that Gryce taught the boy; they never met. But Englehart followed Gryce's every move in the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

newspapers, on the air—by a prepathic device known as radio—and through more esoteric talks with the astronomers who had fallen under the spell of his exuberant genius. Englehart's feeling for Gryce was an exaggerated hero-worship. When Gryce's interstellar drive was announced, it is said that the boy, then thirteen, burst into tears of joy; and when a professional writer dared to challenge Gryce's theories on the grounds that interplanetary travel had not yet been developed, and said that Gryce was a visionary and a mountebank, the youth traveled fifteen hundred miles by begging rides from travelers, and physically attacked the writer.

Gryce took off in his ship the *Falu*—so named from the initials of the society which built it, the First Antares League Union, and not, as Umber so flamboyantly put it, "In honor of the burning infant genius of Englehart." Englehart, whose given name was Samuel, took the name of Falu after the ship, for he identified himself completely with it, and wanted no one to identify him otherwise.

At eighteen Falu Englehart, purely by the violence of his own desires, secured a menial position with the Gryce Laboratories and soon was at work on the counterpart of the interstellar drive which had taken Gryce away—forever. Of his years with Gryce Laboratories there is little record, and it is a temptation to succumb, as Umber did, to the manufacture of such a record out of Englehart's prodigious enthusiasm and the act of his departure in his own ship, *Gryce,* thirty years later.

It is certain, however, that he clung to the hope that Gryce would return longer than anyone else alive, and that he transmuted his hope into a determination to follow, and find out what had happened to the great man. One may learn something of the utter dedication of Englehart's life by realizing that he regarded his own genius, which far outshone that of Gryce, as a secondary thing—perhaps a negligible one. But Englehart's talent was more than a scientific one; in the trouble days of the ship *Gryce's* departure, the lush days of government grants and popular subscriptions were over, and the union of local Antares Leagues had withered and died with the fading hope of Gryce's return. Somehow or other Englehart took the wreckage and leavings of Gryce's work and built with them; somehow he took upon himself the appalling task of financing the work; somehow he procured materials, met payrolls, and kept men working for him in the heat and light of his incandescent purpose.

When the *Gryce* was ready for launching, Englehart was nearly fifty years old, and in those days, fifty years marked the autumn of middle age. Umber's poetry sketches him vaguely, but gives an impression of a tall, compelling man, a voice like deep music, eyes filled with the im-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

mensities. Actually, Englehart was a pudgy little man of fifty, nearly bald, unmarried—and this was not a difficult state to maintain for him or for the few women he met—and, for all his monomania, a gentle-spoken citizen save when he was crossed; and then his compulsion was not that of magnetism, but of sheer nuisance.

He was nearly as forgotten by the world as Gryce, at launching time, except for sensationalist writers who drew on his manifest folly for humorous material from time to time. There was a stir of interest when it was known that he was gone, and his epitaph was written in pity and laughter, and in one or two cases, with an expression of genuine respect for his astonishing dynamism. No one respected his purpose, his goal.

And then he did the most astonishing thing of his surprising life. He came back.

His ship materialized inside the orbit of Mars, causing a warping-eddy perilously close to a primitive exploring ship, one of those pioneer interplanetary reaction-drive contraptions that had been developed since Gryce's disappearance. Englehart himself made no calls, but the pioneers did, and Earth was ready for him when he warped in. He was welcomed as a hero, as a conquistador, a demigod. He was none of these. He was a man who, for half a century, should have been exhausted, but had never thought of it until now. It would seem that even the irony of his return, not only from the grave, but from obscurity, escaped him completely. He showed no emotion whatsoever except a dogged determination to destroy his ship, its drive, and everything pertaining to them; to spend the rest of his life in preventing mankind from ever again trying to reach the stars.

That he did this effectively, we know. For years he had had sole possession of the Gryce premises and records, and the men who had helped him and Gryce never had been able to understand, fully, the principles of the drive. Neither Gryce nor Englehart were teachers; they were doers, and apparently certain esoteric syntheses were done by no one else.

Englehart landed in the Chesapeake Bay in Old North America and was taken off, along with one of the two men who had gone with him—one of them had died on the trip—by the hysterically cheering crew of a towing-craft of some description. The *Gryce* was anchored, and Englehart was seen to lock the port with a magnekey. That same night the *Gryce* pulled her moorings, mysteriously took off out of control, and crashed into the ocean three hundred kilometers off shore. She apparently sank to the bottom and then exploded horrendously, nothing recognizable was ever found of her.

And, shortly after Englehart returned to the old Gryce plant, which had been under lock and key during his absence, there was an explosion

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

and fire there which destroyed everything.

He made as few statements as he possibly could; the gist of them was that he had not found Gryce, though he still would not admit that Gryce was dead; that he had emerged from his drive "capsule" in a portion of space which he did not recognize, and had spent the entire four years of his trip in an attempt to find his way back; that certain one-in-a-billion combinations of space stresses had made his flight possible at all, that the odds were incalculable against its ever being done again. He published these statements along with a short thesis on the mathematical theory of his drive, and a series of patently sequential formulae which proved the drive impracticable, the directional control impossible, and his return miraculous. The mathematical philosopher who discovered his reasoning fallacious, and further proved that the fallacy was purposely brought into the calculations, was not born for another two hundred years, and by that time there was hardly industry left on Earth to produce a clock, much less an interstellar drive. We could build such a thing today, certainly; and certainly we shall not. And the debt we owe Falu Englehart is beyond measure.

This pudgy colossus had a crew of two, a man of forty named Horton or Hawton who was an engineer, and a creature called Gudge, who was apparently some sort of menial, a twisted being of great physical strength. What his background was is not known. He was feted on his return to Earth with Englehart; and little as Englehart said, Gudge said so much less that it was widely believed that he was deaf and dumb. This is not true. He was certainly warped in body and mind, a man of intense secretiveness, and the possessor of a mad philosophy of ego-isolation which is beyond understanding. He had one amusement, and until very recently no one ever suspected it. He wrote.

He had, apparently, the dexterity of those who write long passages of verse on grains of rice, and he must have been able to do it in the dark. Certainly Englehart never dreamed that he was doing it. If he had, Englehart would have come back alone. We must picture for ourselves the great, ugly hulk of Gudge, curled on his bunk around his knotted careful hands, while his stylus made studied, microscopic marks on enduring vellumplex. There must have been no detectible sound, and no motion but his controlled breathing and the tiny jumping of a muscle at the base of his thumb. Certainly it is a picture that Gudge never drew for us; no man ever had less to say about himself. And the events that led up to the entombment of the script, cast into a block of plastic that was carved, possibly by Gudge himself, into the only replica of the ship *Gryce* ever preserved—the conceal-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ment of the many sheets somewhere about his misshapen person, the risk he ran on leaving the ship with Englehart while carrying them, and his motivation in concealing them in an artifact that he knew would be preserved intact—these are things, also, at which we must guess. One wonders what the poet Umber would have done with the information. Gudge probably would have found his way into the epic as a doughty Boswell, and the murder of Hawton would have provided a fine counterplot of mutiny.

Much of Gudge's writing is maundering in his own idiom; without background or references, it is impossible to decipher. "They talked about loyalty," he wrote, near what, in order of pages at least, seems to be the beginning. "You do what you do because it is the last part of what you have done, and the first part of what you will do. Loyalty is the problem of minds which can think of stopping before the end, to take up something else after it has begun."

And "Gryce is a lover, pursuing the stars, and Falu, who never knew a mother, wants to be the mother of Gryce."

Between and among these extraordinary reflections, Gudge wrote enough about the trip so that a narrative emerges.

"Falu said to sleep in the ship. I thought there would be more boxes to pack but when I saw his face, his mouth so tight, his upper lip ballooning with the pressure inside, his eyes with bright tears in them behind the thick glasses, the glasses so thick the glass was frosted at the edges—why, I knew we were going, and I did not ask about the boxes. I went into the ship and Hawton was there and Falu came after. And he did not take Pag and Freehold and the three Poynters, but locked the port. I saw them out there, understanding and frightened, and they ran away."

Who were these five, and where did they go? And had they thought they were to leave with the ship?

"The noise of the jets was always a terror; a scream first, and then a blowtorch, and as we moved, a great blowtorch in a barrel. I fell and was hurt. Horton came to me, holding to the corridor rails. I could hear his hands crackling. He put me to a bunk, and straps. He strapped himself, too. We were very heavy."

So they blasted off—how far, and for how long, they used the reaction drive, it is hard to tell. Probably it was a long time. There is a brief reference to Saturn "like two hats covering their mouths, one with another," and a period after that. Then there is one of the few references to Gudge himself, and his strange attitude. "Horton struck me, which did not hurt me and which made him foolish. He said I should have shown him the leg so it could be cured. I think a man should die if he can not mend himself. Hawton put me on the bunk and with rays and a paste, mended me."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

How long had it been—two months—three, since Gudge hurt himself on the takeoff? And yet he had no complaint to make then, nor when it got worse, nor when Horton struck him for it, nor when he treated the leg. One cannot help wondering whether Gudge was animallike, abject, broken, or whether he had a strange, ascetic dignity.

"Falu put on the big ones. They started slowly, down in the belly of the ship, and Falu stood in the control room watching the meters. The big ones rumbled and rumbled, and though it never grew louder, it crept into the blood; the heart was pumping the rumble, the water we drank was full of the rumble, rumble.

"Hawton was white and sweaty. He put his hands on his temples and squeezed, and cried to Falu, 'Englehart, in Heaven's name, how much more of this do we have to take?' and Falu talked to the instruments and said, 'Not much more. We take off from the peak of one of these vibrations, but we've got to be vibrating in unison, or we'll never get together in one piece.'

"A gong sounded, and light flashed on the board. Falu reached and chopped off the ignition, and the jets were silent, which was a terrible thing, for it left the big ones shrieking. I could hear them, and I could not, and they seemed to be tearing my blood apart. Horton cried.

"Falu was wet but quiet. He braced his knees between the chart table supports and passed his hand over the spot of light."

(This was undoubtedly some sort of photoelectric control, installed in anticipation of the devastating effects of the capsule-entry on the motor centers. It is remarkable that Falu could direct his hand to it at such a time.)

"Then we were blind," Gudge wrote, "and I heard them fall as I fell. We could not see and we could not move, but we were glad, because the silence was blessed."

There is a gap here in the narrative. Apparently some time—ship's time—passed, and their sight and motive power returned to them. Gudge wrote a great deal about the insubstantial appearance of everything aboard, and the changing shapes of utensils and stanchions. It would seem that Gudge's ordinary observations, even in normal space, were somewhat similar; that is, everything, to him, was wavering and distorted, and he was more fit to adjust to the strange conditions of an encapsuled ship. Englehart doggedly and stolidly went about the ship's business with a furious pretense of normalcy. There is no mention of Horton, and it is probably that he simply withdrew into himself.

And then they emerged. "Never was there such hurt," wrote the man who had not complained of a takeoff injury for months, "never such bathing in pain, such twisting and writhing. Hawton's arm tensed

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

against itself and I heard the bone break. Falu sat at the chart table, his hands frozen to the edges, pulling himself on to it until I thought he would cut himself in two. He screamed more than Hawton."

They lay in space for some time, recovering from the brutal transition. Near them was a reddish sun. In all likelihood it was Antares; it was for Antares that Gryce had set his course, and the one-time popular Antares Leagues had that star as their goal, once the etheric drift theory showed that for all its distance, it would be easiest to reach. It is difficult to be sure, however, since there is no record of the capsule-time Englehart spent, nor any real indication of his temporal directions.

They fired up the reaction drive and began to move toward the sun. With the restoration of gravity, Horton found it impossible to keep his food down, and Englehart complained of a splitting headache. These conditions apparently continued until the return.

Englehart ate and slept and lived at his instruments. And one day—

"I brought him his broth, and just as I set it down Falu's breath whistled suddenly, once, through a tight throat. He stared at the screen and cried for Horton.

"The screen was the large one for seeing ahead. It had colors. Space, outside the corona of the sun, was the color of a purple bruise, and beyond that black; and in the black floated a planet like Earth.

"But what made Falu cry out was the sight of the glimmering bowls, like parachutes without shrouds, which rushed toward us. I think there were seven.

" 'Ships!' shouted Hawton. 'Englehart—are they ships?'

"Falu said nothing then, but made us heavy as usual."

(This odd phrase probably means that he cut the drive to one Earth gravity.)

"The bowl-ships were in a single line, but as we watched, they deployed, the leader rising, the last dropping, the others flanking, until they approached us as a ring.

" 'They're going to box us,' Hawton said. He was frightened. Falu said, 'they can't, at our combined speeds. Watch.'

"He set the starboard jet to roaring, and the ring of bowl-ships began to march sidewise across the screen as we turned.

"But Falu was wrong. The ring of bowl-ships, quite unchanged, began to shift with us, and it seemed that the planet and the stars were moving instead, and that the ring was painted on our screen.

"Falu shook his head and peered at them through his thick glasses. 'How can they do it without killing everyone aboard them?'

"Horton said something about overcoming inertia. He said that perhaps there was nothing alive aboard the ships. He glistened with fear.

"When the ring of ships was centered on our screen again, Falu

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

put his hand to the board and drove us harder so that we were heavy again. The ships began to grow, the ring widened, but with nearness. Falu said, through closed teeth, 'Then we'll go through them. Turning like that is one thing; to stop and follow is something else again.'

"'They'll fire on us.' Hawton whimpered. 'Falu—use the capsule drive!'

Falu snarled like an animal, and his voice was like a whip for animals. 'Don't be stupid. It takes three days to build up resonance for the capsule. They'll be on us in an hour.' Sit down and be quiet.'

"The ships grew and the ring widened until we could see the markings on their silver sides, red and blue, and the triangular openings around their bottom edges. Falu clicked on the small screens—sides, above, below as we entered the ring.

"And at the instant we entered the ring, there were two ships above us, and two high on each side, and two low on each side, and one beneath—and they stayed with us. They approached us, they stopped and reversed to go with us, all in that instant of surrounding.

"Falu tried his forward jets, and then one side and the other, but the ring of ships stayed around us. They had no jets.

"And then, in the next hour, the ring began to shift, with those high on the right coming closer to us, and those low on the left moving away. Falu watched them, leaving his controls alone, while Hawton danced about him, mouthing advice. Falu did not answer him, but at last called me. 'Gudge—get him out of sight.' I went to Horton and pointed to his bunk room. He pushed me away. I hit him on the neck and put him on the bunk. I was careful of his broken arm. I think the pain he had been through had soured him through and through, like old warm milk.

"Falu waited and watched, while the ships above came closer and closer, and those below on the other side drifted away. Falu muttered, 'They'll crash us if they keep that up.' And closer they came, and Falu watched them and I stood behind him, watching, too.

"At last Falu grunted and turned to his controls. The near ships seemed close enough to touch with the hand. Falu jetted away from them, down and away to the center of the ring. And it happened that that put the nose of our ship again on the planet; and now the ring of ships stayed equally distant from us as we drove toward this new world. Twice more in the next twenty hours Falu tried to change course, but each time the strange ships led us back toward the planet.

"Hawton cried to be freed. Falu told me to unstrap him. Hawton was angry. He told me he would kill me if I ever touched him again. I said nothing and thought my own thoughts. He went to the control room and stared silently at the screens. Falu said, 'Try to keep your head, Horton. Those ships

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

want us to go to the planet. We were going there anyway; Gryce probably went there, too. So far these ships have made no hostile move except to keep up on course. They outnumber us and there is nothing we can do but go along with them.'

"Horton looked at the screens and trembled, and said nothing about the ships at all. Instead he said 'What did you bring that stupid slug along for?' He meant me.

"Falu said, 'Because he does his work and he keeps his mouth shut, Try it.' I knew then that Horton would hate me as long as he lived. He went to the settee by the port bulkhead and sat there with his arms folded around his hate."

There follows, in Gudge's account, another of those indeterminate periods of idiomatic reflection, in which Falu Englehart, Horton, and the lost Gryce expedition have no part. Probably some days passed, in which there was little to do except wait until they reached whereever it was that the bowl-ships intended to take them. Perhaps nine days passed—it may have been more. In any case, Gudge interrupted in mid-sentence an extraordinary series of thoughts on the similarity of his reactions to sound and to color: "They all say anger is red. Anger is not red while Red is peace in a bright light with your eyes closed—" to write:

"It looked like Earth at first, but not as blue. There were ice-caps and seas, and many clouds. Falu turned the magnescope on it, and when it could find rifts in the roiling clouds, valleys could be seen, and mountains, and once a rapid river. There were cities, too. I saw no life in them.

"The bowl-ships forced us around the planet. Falu said we were in a closed orbit. We stopped using the jets, and drifted weightless around the planet.

"Two of the ships fell away from the ring and dropped toward the blue world. Before them a great green light fanned out, and where it touched the clouds they were gone. Down and down they went, circling around each other and destroying the clouds beneath us until we could see perhaps a quarter of a planet.

"The planet had a burned face. Burned and pitted and twisted, gouged out, melted, blasted. For miles around a boiling hell-pit which threw molten gobs of rock high in the air, the land was sere and smoking. The planet had a face like my face. The two ships came back up to airlessness, and clouds swirled in and mercifully covered the planet's face.

"The two ships flashed past us, spacewards, and the other five began nudging us to follow. Falu ignited the jets, and Horton, who was taking courage now, helped him trim the ship to keep it inside the ring formation. They talked of the blasted planet, wonderingly. Earth had never seen such a cataclysm.

" 'They showed it to us,' breathed

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Falu. 'They just showed it to us, and then took us away. Why? Who are they? Why don't they attack, or free us? Why have we never seen ships like this in our System? Their science—' and he fell silent, awed. Falu was awed."

Falu's awe is the only thing on which Gudge expresses astonishment. Apparently it shook Gudge to his roots, sending him off into a wild metaphysical orgy on the subject of constancy in the universe, and the half-dozen things he had felt he could rely upon to remain unchanged —the color of interstellar space; each man's threshold of pain; what he called "the touch of greenness" and two other items which are abbreviated and undecodable. If Gudge were not completely mad, he had a set of sensitivities completely alien to any human norm.

At this point in his narrative it is necessary to fill in certain movements which must have occurred, unmentioned by the chronicler. For his next mention of their trip describes four of the five escort ships deployed in a square before them, with the fifth above, and the other two holding a body "a rock as big as our factory on Earth" between them by orange beams of light. These must have been the two ships which went down to disperse the clouds, and which led the flotilla out from the planet. Apparently they went to capture this asteroid and bring it to a rendezvous in space. At the rendezvous, the seven ships were motionless in relation to the *Gryce*.

"The four ships made a square, perhaps two miles on a side. There was a dim purple glow from a single plate on each side of each ship, and from this purple spot a blackness gathered and spread. Whether it was gas or dust or a substance, we could not tell. It reached out from the four ships, filling the square of space between them, blotting out the stars, until it lay like a great black blanket in space.

"And then lights appeared on the expanse of blackness—a yellow triangle, a red circle, a series of coruscating amber lines, moving and merging, writhing about, forming mosaic and kaleidoscopic patterns. We were all three spellbound, watching them, and this, apparently, was what the aliens wanted of us.

"For they began to show us pictures, and never have there been such pictures, such blendings of color and proportion. The black velvet of the screen on which they were projected—or which projected them to us—lent a depth that made the screen more a vast window through which we looked at happenings, rather than a mere picture. I could understand why Falu cried out wordlessly and leapt to his feet when the designs faded away and were replaced suddenly, brilliantly, by the picture that had burned in his brain since he was a downy youth; for here, with colors and depth, was the shape of his dream.

"A ship. An Earth ship.

"The *Falu* herself.

"She was shown from behind and

LICENSED TO UNZ.ORG.
ELECTRONIC REPRODUCTION PROHIBITED

above, gleaming and beautiful, and before her were the edge of the red sun and the cloudy planet we had seen.

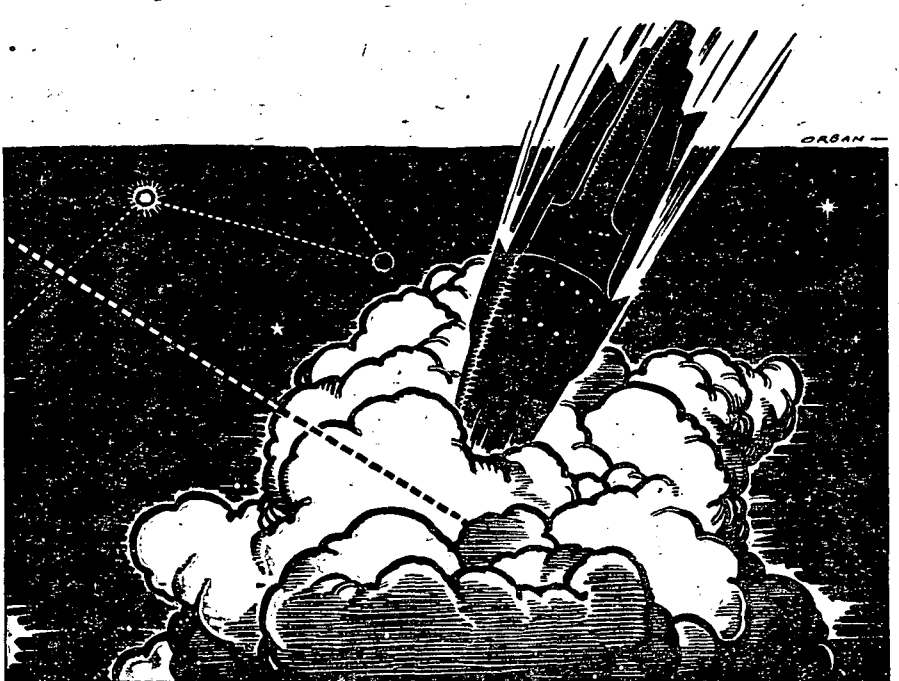
"We saw the planet come nearer, but with the action speeded up so that it swelled visibly, and we understood that this would be a re-enactment of what had happened to the *Falu*.

"Until the planet was a great curving mass filling the lower half of the picture, the *Falu's* broad shining back was in the foreground, but now it receded from us, curving down and away toward the clouds. And suddenly the picture was gone.

"It was replaced by another view of the cloudy sphere, and in a moment there was a rift in the clouds through which we saw a valley, not brown like the ones we had actually seen, but green and lush. There was a river set about with groves of feathery trees, and there were rolling fields under cultivation. Some of these were blood-red, some fallow, some pale blue with blossoms. It was a rich and peaceful valley.

"The view followed it upstream. There were boats on the water, moving rapidly without sails or turbulence in their wakes, and soon there was a city.

"It was a low, wide city of low, wide houses, not crowded together



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

like Earth cities, but parklike. The water's edge was not bunioned with cramped and rusty sheds and quays, but forest and lawn. We could see the prim openings here and there into which towboats and barges slipped into the bank and disappeared, probably to underground terminals.

"The view, the camera-eye, swept down into the city and slowed, as if one were driving through the wide streets. As it swung from side to side, we saw the planet's people.

"They were not human. They were bipeds with strange flexible legs having two knee-joints each. Their arms were set low on their bodies, and were jointed differently from those of humanity, bending up and downward like the claws of a mantis, rather than down and forward like the arms of a man. Their head and faces were tiny and grotesquely human, except for the placement of ear-flaps where cheek-bones should be. Their bodies extended downward past the hips, terminating in a flattened point on which they sat, bracing themselves with legs folded to make a three-point support; they used no chairs.

"They were busy people. We saw pictures of them making metal beams in great automatic forges, growing food in tanks, and making paint and tools. There were beds of truly gorgeous flowers, and parks in which were shapes of stone that must have been sculpture, though none resembled the people; but people walked among them.

"Through the city the pictures took us, and it was a wondrous thing. It made one realize that this was a people completely in command of itself; that it used its resources and did not abuse them; that the stretches of wild country we saw around the city were so because the people wanted it so, and not because there was any frontier which they could not conquer.

"Outside the city again the pictures showed us a wide expanse that at first view seemed to be an airfield; indeed it was so, but it was something more. There were launching cradles on which rested great ships—ships ten times the size of the *Falu* and the *Gryce,* though of roughly the same pattern; and in addition were the bowl-ships, a row of perhaps thirty of them. There were some small ones, but most of them were two hundred feet or more across.

"Then, in a beautifully synthesized picture diagram, we saw one of the ovoid ships leave its cradle in a cloud of flame, and mount the sky; and behind it appeared a silver dotted line, while the whole picture contracted as if the camera were leaping away from the planet, back and back, until it was a ball again, and the dotted line showing us the course of the ship; and still back and back, until the red sun itself was a small disk and the cloudy planet a dot, and the dotted silver line reached outward until it touched another planet.

"And suddenly, making us gasp

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

with the brilliance of it, the same dotted silver lines appeared throughout a system of the red sun and seven planets—a great silver network of them.

"Hawton said, 'I don't understand.'

"Falu Englehart growled at him, without turning his face from the screen, 'Their commerce, stupid. They're showing us that they have a highly developed space commerce.'

"The pictures changed again; again we saw the spaceport, and the aircraft, and the rocketship ramps, and the camera swung to show us the bowl-ships. One of them lifted; but here was no screaming flame, no gout of dust. Here was simply the balloonlike lifting of the whole sweetly curved structure of the ship, up and up into the iridescent sky. And now there was a golden dotted line; and again we had the breathtaking recession from the planet. But this time it was a greater one; this time it left the red sun, and the stars about it rushed together, until we saw a whole segment of the galaxy, thousands of suns. And yet the golden line went out and out, until at last it touched a blue-white star. And then there was a network again, this time golden, and so vast that one wanted to cry. For the whole galaxy seemed woven together with a fabric of golden threads.

"Hawton snorted. 'I don't believe it. That simply can't be. They're lying to us. If they had a commerce like that, we'd have had them on Earth thousands of years ago.'

"Falu said, 'Wait.'

"The cosmic picture winked out, and after a moment of that total blackness, we saw again the picture of Gryce's ship, the *Falu*, spinning down into the clouds of the planet we had visited.

"As she entered the gaseous envelope, a flame appeared, purple, but blue-white at the center, around the *Falu*. And in a moment, the whole side of the planet seemed to open outward in one furious, hellish blast. Falu grunted and covered his eyes against that terrible radiance, and Horton closed his and wrinkled up his face, turning away.

"Down and down the picture-eye took us, to the enfuriated clouds. It swept us along the valley we had seen before, and as we reached the same city street, we saw the people stop in the shops, in the factories and parks, and turn as one to the sky. A great glare, purple and white, filled the scene, and the ground came up once, twice, again, hurling the people off their feet, bringing the buildings down on them. Here an inhabitant holding two young ones was crushed; there another fell into the gaping mouth of a crack in the earth, which closed on him.

"Out we were taken, to the spaceport. We saw a rocket blast off just as its cradle crumpled, and the ship wavered, turned, and crashed into the row of bowl-ships. Great ravines appeared on the smooth landing area; and then we saw, in the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

distance, a gleaming cliff that was not a cliff, but a towering continent of water, rushing toward us. So real was this that as it approached the picture's foreground, we all shouted and drew back, and then found ourselves in our own control cabin, shaken and looking at each other foolishly.

"Now the picture was of the planet again, back and back from the planet with its ravening scar, back to show the whole system of the red sun. Again we saw the silver network, and part of the greater, golden one; and where they based on the cloudy planet, those lines dimmed and died out, until at last the planet lay deserted, alone, unwanted and dead.

"Once more the picture brought us to the planet, only briefly, to show up again the wreck and ruin, the burned, broken, murdered thing that we had seen before with our own eyes, when the two bowl-ships had opened the clouds for us. And then the great screen went dark.

"'I don't understand,' whispered Hawton. 'Gryce went to that planet and something happened, something that—'

"'Wait,' Falu said again.

"And now the two bowl-ships which bore between them, on beams of orange light, the great rock which was as big as our factory on Earth, came forward. They swung the rock between us and the strange black screen, steadied it, and their orange rays disappeared. The ships withdrew to a point above us.

"There was a picture again on the huge screen, a picture of our ship, seen from a point just at the other side of the floating rock. We saw, at the side of the image of our ship, a movement, as something came from it toward the rock. It drifted out until it touched the rock, and just before it touched, we saw it was a piece of metal, a block. Then the picture disappeared, to be replaced immediately by the same scene, the only difference being that the object, when it came near enough to see, was a metal disk. Again the picture disappeared and repeated itself, but this time the object which came from our ship was a cube.

"Again and again this was repeated, this scene of some object being projected from our ship to the rock, and each time the object was different. Sometimes it was metal with a silver or golden luster, and sometimes it was a smaller piece of rock, and sometimes a red or green or yellow lump of plastic. I understood what they wanted of us, but said nothing."

(Why did Gudge never, or almost never, speak?)

"Falu, watching this reiteration for the twentieth time, said, 'They want us to do something. They want us to throw something out to that rock. I wonder what exactly they want us to throw?'

"And Hawton said, 'From the looks of those pictures, it might be almost anything.'

"Falu said, 'Well, let's throw something. Gudge—"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"But I had already gone, as soon as Falu said he wanted it done. In the after storeroom was a dense roll of insulex for space repair. There was more. It weighed four hundred pounds on Earth, but nothing here, of course. I cast off its buckle-clamps and brought it out to the disposal chute. Beside it I put a pressure-bottle of carbon dioxide. Then I waited. Falu came aft to watch me, and said, 'You know, Gudge, sometimes I wonder just where the limits of your mind are. Yes, I'll turn the ship.' He was always surprised when I understood anything before he did. Hawton was never surprised. He forgot it, time and time again, because he wanted to.

"With the steering jets Falu gently nudged the ship over so that the disposal lock pointed directly at the rock. As soon as his jets appeared, the pictures on the black screen ceased, and all of the ships around us withdrew perhaps a hundred miles, in a single instant.

"I put the roll of insulex and the bottle in the disposal lock, tripped the trigger on the bottle, and slammed the inside port as the carbon dioxide began whistling out. In a moment the bottle was empty and the lock full of gas under pressure. When Falu had steadied the ship and called out to me, I turned the valve that opened the outer port, and with a *whoosh* the gas swept out, taking the insulex with it. Then I went to the control room and stood again behind Falu, where I could see the forward visiscreen.

"The bulky roll turned slowly end over end as it flew, in the spot of light that Hawton kept on it with the pistol-grip control over the chart table. It needed no light when it stuck, though—

"And I thought it was going to miss! It barely touched, and yet—

"Before us we saw a miniature of what had happened to the cloudy planet—a miniature, because it was only a roll of insulex and a fragment of rock compared with the mass of the *Falu* and an entire planet. But it was a miniature close to our eyes, too close. Had we known, we could have put the filters up over the viewing cells; at least we could have looked away.

"In the split second before the cells went out, we got a flash of that white and purple radiance that was knives in our eyes, and then blindness, for our ship and for us. And I know that as I lie dying I shall carry still a tattered shard of that frightful brilliance in my old eyes. In that moment there was nothing to do, no thought to pass, no move to make but to claw at the eyes which had captured and held white flame behind their lids.

"It was an hour before we could see dimly again, and six before we could ship new cells on the forward and low starboard viewers.

"And there on the restored screen we saw the seven bowl-ships, patiently and passively waiting some sign from us. Falu shoved the trembling, red-eyed Hawton aside and grasped the searchlight grip. 'I

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

want the rest of it,' he said. His face deeply scored, pouchy. The loss of his dream of finding Gryce was as much as he could bear—all the burden he could ever carry. Anything else he might learn would be a small thing indeed. He blinked the light.

"The four bowl-ships had restored, or rebuilt, the great screen. Again we saw the shifting patterns and mosaics, which were apparently their 'ready' signal. And then there were more pictures.

"First a picture of our roll of insulex and the rock, and then, in that bewildering fashion, the picture became a diagram. The roll of insulex turned into a glowing ruby color, ran together, separated into two blobs which in turn became two cubes. They approached each other, touched, separated, touched again, separated and were still.

"Then the rock was shown, and it turned a shimmering yellow; and it, too, ran together into a formless mass, separated into two cubes. And these too, came together and moved apart.

"Next, all four cubes were shown, the two red and the two yellow, the red above, the yellow below; and a red and yellow cube changed places. A red cube moved and touched a yellow—and both dissolved in ghastly, glaring flame. And again, the remaining yellow cube moved and touched the red one, and they married in purple-white violence and were gone. And Falu breathed, 'I think I see—'

"The pictures then repeated the scene of Gryce's ship, the *Falu,* approaching the cloudy world. And then the scene was frozen into a still photograph, and the *Falu* turned the same glowing red as had the insulex, while the planet was shown in the shimmering yellow.

"The red ship moved down to the yellow planet, and devastated it.

"We were then shown a picture of our own ship as it released the insulex. Ship and insulex turned red as the rock fragment and the bowl-ships turned yellow; and when our red property touched the yellow rock, the hell was loosed again.

"And now we saw the great, expanding chart of the galaxy, and on it again were superimposed the shining networks of dotted gold and silver lines, showing the wide commerce of these people. And suddenly every sun and planet was the shimmering yellow—every one, except for a scattering of red here and there near the edges of the galaxy.

"The eye of the camera moved to one of these red spots, expanded it, and we saw Sol and her planets, all untouched by the shining network, and all of them but the retrograde moon of Uranus, in glowing ruby.

"We saw a new kind of dotted line, the deadly red this time, leave the third planet, and followed it across the corner of the universe to the cloudy planet, and saw for the third time the picture of the *Falu* plunging into the deadly clouds.

"After that, the black screen dis-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

solved and the seven ships took up their ring position around us again.

"Slowly, with sick hands, Falu Englehart fired the jets and swung the ship about. Hawton cried, 'What are you doing?'

"Tiredly, Falu said, 'Going back, Horton. Back.'

"Hawton ran to the screen. 'They'll kill us! They'll kill us!'

"Falu glanced briefly at the seven ships. They were not moving. Still in a ring, they were motionless, letting us leave them behind. 'They'd kill us if we went toward their planets, or any other sun in the universe but Sol—or one or two others. They won't kill us if we go home. They wanted us to know what we are. They've known it for . . . for eons. And they want us to go home and tell our people. The fools!' he spat suddenly. 'Gryce surprised them. They didn't know we had advanced as far as capsule-flight. Gryce did it, and I followed, and they judge all humanity by Gryce. They don't know, they just don't know—'

"Hawton said he only partly understood. 'I mean, I know that when we contact them, there is an insane violence; but why? Why?

"'They're contraterrene,' said Falu.

"Hawton grunted in surprise. 'I thought that was simply an idle amusement for theoretical physicists.'

"Falu waved at the screens. 'You saw.'

"'Contraterrene,' Hawton mused. 'Matter with the signs transposed—atoms with negative nuclei, and positive satellite-shells. And when terrene matter comes close, the whole thing becomes unstable and turns to energy. *Falu!* Were they telling us that the whole universe, except Sol and a few other outer-edge stars, are contraterrene? I think that only at that moment had Hawton received the full impact of what he had seen with his own eyes.

"Falu simply nodded tiredly.

"And they have commerce-galaxy-wide commerce, and civilizations on every habitable planet, while we—'

"'We're in the corner. Excommunicado. Left to our own devices, as long as those devices don't bring us to contact them,' Falu finished.

With the bland *non sequitor* quality of his writing, Gudge here departs from the narrative, in a welter of thoughts of his own. He looked on Englehart and Horton—(Hawton?)—with new eyes; indeed, he seemed to regard all of humanity in a new way. He himself had always lived 'in Coventry'—out of contact with those around him; and he seemed to take a certain pleasure in the chance to regard all mankind as in the same position. These long and gleeful passages contain nothing of the events which followed, except for one brief and important scene:

"Falu had told him and told him not to say it again, but he did. He shrieked at Falu. He said, 'You

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

must tell the world, Falu! You'll be great, don't you see? Terrene beings can rule the galaxy. What science would the Contraterrene peoples share with us, to appease us? What man could fail to see the advantage of his unique position, when every stone he throws can be an atomic bomb. Let us build a fleet of Gryce-drive capsule ships, and go out and demand equality in the universe!'

"Falu said, 'Hawton, For the last time—for really and truly the last time—the Earth isn't ready for this yet. What you suggest would have one of two results; if we succeeded, which isn't likely, we would only bring terror and destruction into a highly organized, peaceful universe—just as we have brought it on ourselves repeatedly. The other and more likely result is that before we could launch our ships, the Contraterrenes would wipe us out. There will be no more picture-shows. We have already killed a planet; in return they gave us some information about ourselves which we had not known. The next time we make a move toward them, they will destroy us with a clear conscience. I don't doubt for a moment their ability to hurl a planet the size of Earth into Sol, and then you know what would happen. You've studied supernovae.'

" 'You're an idealistic child,' Hawton screamed. 'And if you won't tell the world, I will.'

"Falu squinted up at him through his heavy glasses. He saw, I think, the beginnings of fanatic purpose in the man. 'Gudge,' he said.

"I went to him. He pointed his finger at Hawton, and said, 'Gudge, kill him.'

"So I did, with my hands, very quickly, and put him into the disposal lock and turned the valve.

"When I came back Falu looked at me strangely. 'I suppose I should kill you, monster,' he said. 'Can I rely on your not talking?'

"I said nothing. Suddenly he shrugged. 'I'd give a whole lot to know what goes on in that ugly head of yours. If I wanted to kill you, I don't believe you'd try to stop me. Right?'

"I nodded, pitying him a little, for he was thinking again about loyalty and wondering why I had given him mine; he did not know that one goes on doing what one is doing, and never stops."

And that is how, according to the sheets found in a carven spaceship model, Samuel Falu Englehart made his journey, and how he saved us from certain doom at the hands of those who are perfectly willing to leave us alone. Now we can know the story, for we are grown and no longer acquisitive, and have our farms and our minds, and can bridge space telepathically, wherein there is no valence.

THE END

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

BRASS TACKS

Scheduled for 1949! del Rey, Heinlein, Padgett, Asimov, deCamp, and probably some of those others!

Dear Mr. Campbell:

The year of 1948 draws to a close. This has been one of Astounding's best years. Why? Let's look at the records.

First, serials. This has been the best serial year in my memory. The year started by finishing up Doc Smith's slam bang final part of the Lensman series. Then followed Williamson's robot serial. The thing I especially enjoyed was his main character, Claypool. Claypool was no Superman. Very few authors can get away with supermen heroes. Williamson was wise enough not to try it. Next came Russell's opus, "Dreadful Sanctuary." I didn't like this as well as "Sinister Barrier." In fact, it was just a glorified detective story. Still, it was better than the average serial. Finally you closed the year right with van Vogt's "The Players of Ā." Here's the way I rate them:

1. "The Players of Ā," by van Vogt.
2. ". . . And Searching Mind," by Williamson.
3. tie: "Dreadful Sanctuary," by Russell.
   "Children of the Lens," by Smith.

Next the novelettes. Here's my choice for the top ten.

1. "In Hiding," by Shiras—a really great story by a new author.
2. "Ex Machina," by Padgett—good old Gallegher!
3. "Now You See It . . ."—and the Foundation goes on and on.
4. "Unite and Conquer," by

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Sturgeon—wish somebody would try it.

5. "Late Night Final," by Russell—rather vague but very good.
6. "The Rull," by van Vogt—another problem story like "A Can of Paint."
7. "Time Trap," by Harness—another "By His Bootstraps," nightmare.
8. "There is No Defense," by Sturgeon—I guess I just like Sturgeon.
9. "Police Operation," by Piper—much better than "He Walked Around the Horses."
10. "The Obsolete Weapon," by Hubbard—not up to his pre-war standard.

Now the shorts. I rate them like this.

1. "That Only a Mother," by Judith Merril—this was truly a grim and powerful story. She really knows how to make the reader feel the mood she wants to put over. I rate this as your best story of the year including novelettes and serials!
2. "The Love of Heaven," by Sturgeon—how does he manage to keep turning out classics?
3. "The Monster," by van Vogt—no comment necessary.
4. "Dreams Are Sacred," by Phillips—good and funny.
5. "Decision Illogical," by Wilkinson.
6. "Burning Bright," by Browning.
7. "New Wings," by Chandler.
8. "Tiger Ride," by Blish and Knight.
9. "Advent," by Bade.
10. "The Hero," by Farrell.

What I want for 1949: more stories by Padgett. He had only one in all 1948. Where is Heinlein? Can't you get him to write another of his Future History novels? How about Simak? Asimov? Moore? Del Rey? R. F. Jones—remember "Renaissance." Leiber—I still remember "Gather, Darkness!" Bradbury, Rocklynne, Miller, de Camp, and Please, more Don A. Stuart.

The only other thing I want is a fully revived *Unknown*. If the paper shortage is still bad, why not publish it in Astounding's size even if it has to be bimonthly. I want my ghouls back!—James E. Phillips, 704 E. Piankishaw, Paola, Kansas.

I was just a bit tired of that spaceship—but what finally lead to its abolition was very simple. The printer lost the ancient and honorable cut!

Dear Mr. Campbell:

What is happening to Street & Smith? Are you boys out East getting ants in your pants or something? First you change your pub-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

FANTASTIC FICTION FOR SALE

PART I — ALL NEW BOOKS — This Part Costs You Money

†1. Skylark of Space—Smith . $3.00
2. Spacehounds of IPC—Smith 3.00
3. Triplanetary—Smith . . . 3.00
4. Skylark Three—Smith . . . 3.00
5. Skylark of Valeron—Smith 3.00

Copies Personally Autographed by Author All 5 for $15.00 Postpaid

*5A. First Lensmen—E. E. Smith $3.00

†6. Venus Equilateral 3.00
6A. Nomad 3.00
6B. Pattern for Conquest . . . 3.00

G. O. Smith Personally Autographed

†7. Book of Ptath—Vogt $3.00
8. Out of the Unknown—Vogt 3.00
9. World of A—Vogt 2.50
10. Carnelian Cube — Autographed $3.00
11. Divide and Rule and Stolen Dormouse 3.00
12. Lest Darkness Fall 3.00
2 cover jackets, one extra done by Bok. Copies autographed by author.
13. Wheels of If—Autographed 3.00
†14. Well of the Unicorn—Fletcher 3.50

Pratt & DeCamp All 5 for $12.00 Postpaid

*15. Mightiest Machine—Campbell $3.00
16. Who Goes There—Campbell 3.00
*17. The Incredible Planet—Campbell 3.00
18. Sinister Barriers—Russell 3.00
18A. Martian Odyssey & Others—Weinbaum. 3.00
19. Black Flame—Weinbaum 3.00
20. Final Blackout—Hubbard 3.00
21. Slaves of Sleep—Hubbard 3.00
(Some Autographed Copies Available)
22. Death's Deputy—Hubbard 2.50
23. Forbidden Garden—Taine 3.00
24. Radio Man—Farley 2.50
25. Sunken World—Coblentz 3.00
26. Edison's Conquest of Mars—Serviss 3.50
†27. Legion of Space—Williamson 3.00
28. Darker Than You Think—Williamson . . . 3.00
28A. Beyond This Horizon—Heinlein 3.00
29. Methuselah's Children—Heinlein 3.00
*30. Sidewise in Time—Leinster 3.00
31. Abyss & Solitary Hunters—Keller 3.00
32. Life Everlasting (Anthology)—Keller . . 3.50
33. Best of Science Fiction—Conklin 3.50
34. Treasury of Science Fiction—Conklin . . . $3.00
35. House on the Borderland—Hodgson . . . 5.00
36. Skullface & Others—Howard 5.00
37. The Torch—Bechdolt 2.50
*38. Seven Out of Time—Zagat 3.00
39. Checklist of Fantastic Literature 6.00
40. Web of Easter Island—Wandrei 3.00
41. Genus Loci & Others—C. A. Smith . . . 3.00
42. The Fourth Book of Jorkens—Lord Dunsany 3.00
43. Of Worlds Beyond—Edited by Eshbach . . 2.00
43A. Ship of Ishtar—Merritt (new book version illustrated by Finlay) 3.00
44. Fox Woman—Merritt 4.00
45. Black Wheel—Merritt 4.00

All 3 for $10

46. Without Sorcery—Sturgeon 3.00
47. Carson of Venus—Burroughs 1.00
48. Lost on Venus—Burroughs 1.00
49. Pirates of Venus—Burroughs 1.00
50. Princess of Mars—Burroughs 1.00
51. Gods of Mars—Burroughs 1.00
52. Warlord of Mars—Burroughs 1.00
53. Thuvia Maid of Mars—Burroughs 1.00
54. Chessmen of Mars—Burroughs 1.00
55. Mastermind of Mars—Burroughs 1.00
56. Synthetic Men of Mars—Burroughs 1.00
57. Fighting Man of Mars—Burroughs 1.00
57A. Swords of Mars—Burroughs 1.00
58. The Porcelain Magician—Frank Owen . . 3.00
59. The Doll—Blackwood 1.50
60. Cosmic Geods—Taine 3.00
61. Greener Than You Are—Ward 1.00
62. The Fantasy Fiction Field Calendar for 1949—Illustrated by Bok, Cartier & Paul 1.00
(Also FREE with Order—Look at Part III)
63. Hercules, My Shipmate—Graves 1.00
64. Strange Ports of Call (Anthology)—Van Vogt, Kuttner, etc. 3.75
65. And Some Were Human—Delrey 3.00
66. People of the Comet—Hall 2.00
67. Pilgrims Thru Space & Time—Bailey . . 5.00
*68. Blind Spot—Hall & Flint 3.00
*69. The Spot of Life—Hall & Flint 3.00
*70. The Homunculus—Keller 3.00

* Forthcoming. † Now out of print at Publishers—still available from Julius Unger at no increase in prices.

PART II — MAGAZINES — This Part Too

1. Astounding—1931-1938 . . . . . $2.00 each
1939-1948 . . . . . 1.00 each
Ask for FREE Index
2. Unknown—1941-1943 . . . . . 1.00 each
Ask for FREE Index
3. Amazing Monthlies—1929-1940 . . . . . 1.00 each
1941-1948 . . . . . .50 each
4. Amazing Quarterlies—1928-1934 . . . . 2.00 each
5. Wonder Monthlies—1929-1940 . . . . . 1.00 each
1941-1948 . . . . . .50 each
6. Weirds—1934-1948 . . . . . 1.00 each
7. Famous Fantastic Mysteries—1939-1948 . . . . . $1.00 each
8. ANY copy of the following—Startling, Planet, Astonishing, Super Science, Science Fiction, Future Fiction, Captain Future, Fantastic Adventure—at . . . . . $.50 each

PART III — This Is For FREE — No Money

Except you must buy at least $5 worth from Part I, II and IV, then your choice of ANY item from these listed are FREE.

1. The Fantasy Fiction Field Calendar for 1949—Art Work by Bok, Paul & Cartier
2. Rhode Island on Lovecraft
3. 1941 Yearbook (Just an Index)
4. Greener Than You Are—Ward
5. Hercules, My Shipmate—Graves
6. Well of the Unicorn—Fletcher (Pratt)
7. Fantasy Book, Stories by Vogt, Hasse, Kuttner, etc.
8. From Unknown Worlds (An anthology of stories taken from the unknown)
9. An original A. Merritt article done especially for Julius Unger (What Is Science Fiction?)

PART IV — SPECIAL FEATURES

1. The COMPLETE ORIGINAL E. E. Smith stories from Amazing, Astounding, Comet, Astonishing & Thrilling Wonder, 9 full length novels and 4 short stories—one set only $100.00
2. The COMPLETE UNKNOWN SET, 1939-1943—one set only 75.00
3. June 1929 Science Wonder; July 1929 Air Wonder. Both 1ST issues—good condition 10.00
4. May, June, July, 1926 Amazing—the 2nd, 3rd and 4th issue—good condition—for all this . . 15.00
5. The original 1ST edition of Skylark of Space—Smith—Autographed—(one copy only) 10.00
6. Time Stream—John Taine—(one copy only) 6.00

JULIUS UNGER • Box 35, Brooklyn 4, New York

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

lication address, and now this! By "this" I refer to your unwarranted abolishment of the spaceship which has for so many years adorned your contents page. Don't you possess any sentimentality whatsoever? As far back as I can remember, that extraterrestrial vessel has been tearing across the upper left hand corner of that page. I have come to associate it with ASF and vice versa. To take it out now is like taking a head from a body. With modern science it might be possible but they'd be mighty lonesome for each other. Besides, I thought that that ship was right purty, I did. I've always speculated as to who drew it. Really now, you shouldn't have yanked it out so abruptly. It just isn't fair—*sob*—it just isn't fair!

For the Analytical Lab on the January 1949 issue:

1. "Players of Ā," by A. E. van Vogt (Conclusion). Van Vogt really had me worried for a while. Parts One and Two were terrible and Three was only a little better. But in the Conclusion he has improved immensely and, although I still feel that the story is inferior to "World of Ā," it is now to be rated as a first class piece. There were, however, a couple of places where he slipped up. For instance, the Follower didn't quite seem in character if he was going to turn out to be Secoh. Until he revealed them as identical, van Vogt had described them as radically different individuals. Now it is well and good if van Vogt finds it to his advantage to make his characters out of phase, but that is certainly no excuse to make them out of character. And how was the Follower able to predict, when it turned out that he wasn't a Predictor after all? The ending, although it tied everything together rather nicely, seemed a bit hurried and had a good deal of room for improvement.
2. "Private Eye," by Lewis Padgett. An interesting yarn with a nice psychological twist. I love the way in which Padgett manages to get his principal character caught between the devil and the deep blue sea.
3. "Death is the Penalty," by Judith Merril. Very good. A piece of that sort every now and then is a refreshing change from the usual run. But let's be careful not to spoil a good thing by overdoing it.
4. "The Red Queen's Race," by Isaac Asinov. Good, but I disagree with Mr. Asimov's temporal logic. An action in the present can quite easily change the future. But an action made in the present and sent back to influence the past can only do one of two things. (a) It can fit into the picture of the development of the present world, as did the altered chemistry text in Mr. Asimov's

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

story, or (b) it can cause a change in which another probability world will sprout out. In no case will the present world be influenced. We already exist, and therefore cannot cease to exist. Of course, considering that another probability world is created, the mathematical probability of our world's existence is lessened, but this would make no difference to us as we have no standard by which to measure our probability of existing. In plain words, unlike Mr. Asimov's declaration, the complete chemistry text would not cause us to cease to exist, it would merely create another probability world in which we do not exist.

5. "How Can You Lose," by W. Macfarlane. This story was fair, but was somewhat of a disappointment. Mr. Macfarlane had the basis for a story that would parallel De-Camp's "Nothing in the Rules" appearing in *Unknown,* some time back, but he passed it up. In spite of this, however, it wasn't too bad.

6. "Expedition Polychrome," by J. A. Winter, M.D. Poor. Why is it that you must always run the poorer stories in sets of two or more? First MacDonald and now this. Not that they are both of the same quality, MacDonald's work is all round poor. Dr. Winter, however, had his science down pat, but little else. Keep him on articles for a while, will you? It is interesting to note that in both of the aforementioned sets, the second story has been superior to the first, particularly in Dr. Winter's series. "Expedition Polychrome" rates last only in comparison with the stories in this same issue, which happens to be an excellent lot. On the whole, it is only slightly below the ASF par, while its predecessor fell way below the mark.

Your editorial was interesting, but as for Locke's article, suffice it to say that it was only by frequent use of the cortical-thalmic pause that I was able to read it to the bitter end.

Great Scott! Now you're sneaking articles into "Brass Tacks!" Take Aaron Miller and give him an article to write or something, but get him out of the letter columns! I read that section of the magazine for enjoyment, not to get an astronomy lesson. A little is all right, but that is going too far! If it keeps up, I have a nice, logical, twenty-one hundred word article on the turboencabulator, complete with diagrams, graphs, and other paraphernalia, which I will be only too glad to send you in a letter.

I'd like to conclude this by adding my bit to the statement made some time back that it pays to get a subscription. I received my copy of the January issue a good week be-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

fore the stands are scheduled to have it. And my local stand usually gets magazines a good week *after* they are supposed to be out, so . . . Evan H. Appelman, 195 Laurel Avenue, Highland Park, Illinois.

Neurotic thiotimoline, yet!

Seattle, Washington.

Dear Sir:

In your March 1948 issue, Mr. Asimov wrote a very interesting article concerning thiotimoline. I think, however, that as a result of recent experiments, I can shed more light on this rather singular substance.

A more comprehensive review will be published at a later date, in pamphlet form, entitled: "Behavior Patterns of Neurotic & Psychotic Thiotimoline."

But at present I shall content myself with bringing to your attention some of the less abstruse features of these experiments.

The single piece of apparatus used, was an old endochronometer that had been knocking about the lab for some time. This was modified so that the photocell, located at the bottom of the 2 c.c. receptacle would, when activated, interpose a small cup between the micro-pipette and the receptacle. This was done, and here are the results:

The circuit was closed. Five seconds later the solvent—water—was delivered, but the thiotimoline, anticipating this event, had dissolved 1.22 seconds previously, and in dissolving, had activated the photocell, which in turn had interposed the small cup which would catch the solvent that was about to be delivered.

You can readily see what a serious problem the thiotimoline faced. It had dissolved, and the solvent failed to appear, and besides, if it hadn't, it would have been drenched, since the small cup wouldn't have interfered with the falling drop of solvent.

This brings us to the most interesting part of the experiment. The meat of it, so to speak. The thiotimoline, confronted with such an unsolvable problem as this, lost its—how shall I say it—"mental stability" and reverted to neurotic behavior patterns in an attempt at solution.

Some of the specimens, after realizing how they were duped, and how irrevocably they had committed themselves, brazened it out with the perfect indifference that only a true neurotic can sport; they just laid in the receptacle as if nothing had happened.

Other specimens, with perhaps less courage, got better results. One such, after seeing the pickle it was in, was reduced to a state of nervous hysteria. So complete was the breakdown, that it decomposed. All that was left in the receptacle was a quivering mass of jelly. I suppose you could say it solved its problem in its twisted way.

Another specimen, hoping that no one would notice anything amiss,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Good news!

A new *August Derleth* book!

Twenty masterpieces of science-fiction in one giant volume

THE OTHER SIDE OF THE MOON

1

Included are tales of collision with other planets, of a night of horror on a space ship, of robots with evil, twisted brains, of unspeakable Things which claw their way into the souls and the bodies of their victims . . . of a man blown backward in time by the Hiroshima explosion. The book ends symbolically with A. E. Van Vogt's RESURRECTION, a tale of man's resurgence on earth after the destruction of the human race. All but one of these stories are out of print.

480 pages, $3.75

HAVE YOU READ THESE DERLETH COLLECTIONS?

STRANGE PORTS OF CALL

2

Twenty out-of-print collector's items for the science-fiction enthusiast.

416 pages, $3.75

THE SLEEPING AND THE DEAD

3

Thirty spine-chilling tales of the spectral and the psychic.

528 pages, $3.75

ORDER YOUR COPIES NOW!
70 fantastic and macabre tales in 3 huge volumes

PELLEGRINI & CUDAHY • DEPT. A
333 SIXTH AVENUE • NEW YORK 14 • N. Y.

Please send me ..... copies of the Derleth books whose numbers I have encircled below @ $3.75 each. ☐ Send C.O.D. (postage extra). ☐ I enclose check or money order (postage free).

1 2 3

NAME .....

ADDRESS .....

CITY ..... ZONE..... STATE.....

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

hastily extracted moisture from the air, and finally went into solution .53 seconds late.

The one outstanding specimen, though, displayed such cunning and ingenuity, that it is a constant source of wonder to me.

This one, after finding that it couldn't dissolve in water it had extracted from the air—I had dehydrated it because previous specimens had since found the moisture extraction routine a fairly easy out—made an attempt at synthesizing some. It snatched oxygen from the air and combined it with unwary hydrogen atoms it captured from various objects in the vicinity. The holes in the wood of my workbench offers mute testimony to the verity of the above statement.

But, to get on, the thiotimoline used in this particular experiment must not have had even a working knowledge of chemistry, for alas, the heat evolved by the hydrogen-oxygen reaction caused it to vaporize. A regrettable oversight.

But, sometimes I wonder if it really was an oversight that caused it to sublime itself. Maybe it resublimed in some distant chemical heaven. Sometimes in the deep of night, I think I hear, far, far away, an insane chemical chuckle.—Warner Lindholm, Seattle, Washington.

Still, if these 50,000,000 monkeys come up with poetry, I'll suspect (A) a well-run hoax or (B) a mutant monkey with telepathic powers before accepting (Z) that the exceedingly improbable has occurred.

Dear Mr. Campbell:

I second the motion made by Mr. Paul Bergen—November 1948, pp. 108-09. The Eddington hypothesis has always fascinated me. I haven't made up my mind on the subject, but I should like to see it discussed further in later issues. If possible, I'd like to see it refuted.

In fact, I think it was refuted in your printing of Mr. Bergen's letter by an apparently unintentional error. Certainly Mr. Bergen, the linotypist, or whoever it was that committed the error is no ape. Yet, with a head start of some decillion years, he must have, in a moment of atavistic forgetfulness, joined his randomly typewriting cousins to come up with, "Hail to thee, *bright* spirit . . ."

On the next page, he comes up with, "*blythe* spirit". If we were to concede the apes a little more than capitals, puctuation, and spacing, that is, with regards to archaic and phonetic spellings, fall as they may, the languageless beasts might do it in half the time, since the frequency of "z" and other rare letters would jump considerably.

I had better quit before I join Professor Eddington and discredit my favorite poet—Robert N. Yetter, English Department, University of Arkansas, Fayetteville, Arkansas.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Year's best.

Dear Mr. Campbell:

I know that you receive probably hundreds of letters on the annual listing of stories for the year, but in the hope that one more won't try your patience too much I'm sending my nominations for the year's best.

1. ". . . And Searching Mind": Williamson's best since his return from the war. By all means let's have more of Jack—The Reformed—Williamson.

2. "Dreadful Sanctuary": Except for the very weak last part Russell's yarn would have been in the number 1 spot.

3. "In Hiding": Mr. Shiras has turned out an excellent story for his first contribution to ASF. I hope this is not his last appearance.

4. "Time Trap": Another new author I believe. I don't think the majority will agree with me on this selection, but I just couldn't get it out of my mind. I guess I'm a sucker for a time travel yarn.

5. "Late Night Final": Russell again. This, too, stuck in my mind.

Since van Vogt's null A sequel doesn't finish until the January issue of next year, I have purposely left it out. Otherwise Mr. Williamson would have had plenty of competition. All in all it was quite a year for *our* mag, and I hope there's more like it. Keep up the grand work.—Richard S. Laymon, 523½ S. Harris Avenue, Columbus 4, Ohio.

Strange and dramatic—

THE DEVIL'S TRAMPING GROUND

AND OTHER NORTH CAROLINA MYSTERY STORIES

by John Harden

A COLLECTION of baffling incidents — from the "mysterious death of Beautiful Nell Cropsey" to the "treasure ship off Wrightsville." North Carolina's capes and coves, mountains and marshlands provide rich lore for collectors of the unfamiliar.

$3.00

At your bookstore, or order from

THE UNIVERSITY OF NORTH CAROLINA PRESS
Dept. A Chapel Hill, North Carolina

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

REVIEWS

Editor's Note. Sometimes its instructive, sometimes pleasing, sometimes amusing, to see yourself as others see you. Here, friends, countrymen, and science-fictioneers, is science-fiction seen through Red—one might almost say blood-shot—eyes!

LITERATURNAYA GAZYETA
(Literary Gazette)
March 23, 1948.

Article:
THE WORLD OF NIGHT-MARE FANTASIES
By Viktor Bolkhovitinov & Vassilij Zakhartchenko.

The American writer R. F. Jones, an experienced writer of "scientific" fantasies, attempts to lift the curtain of the future for the reader. He uses all his flaming imagination in describing a machine in front of which mothers with their newborn infants are lined up. The machine swallows the infant, hundreds of gadgets inside the machine analyze inclinations, talents, character and other potentialities of the future person. The machine is uncompromising. If it finds the child normal, it right then and there rolls it back into the arms of the mother. If it finds a future "superman," the mother will never see him again—he will be sent to a world "parallel" to ours where it will be raised without the help of its parents. But woe to the baby the machine finds defective, it will be immediately destroyed. According to the "scientific" forecast of Jones a thick network of such machines is going to cover the world of the future.

This tale, monstrous in its openly fascistic tendency, appears, in the American magazine Astounding under the optimistic title of "Rebirth."

Jones' fascist revelations are not an isolated instance in American science-fiction literature. There are numerous such examples under the brightly colorful covers which enterprising publishers throw on the American book market in millions of copies. From their pages glares a fearful world, apparently conceived in the sick mind of an insane, a world of nightmare fantasies. Miasma, mental decay, fear of today and horror of the future, all these innumerable ills of capitalism are clearly reflected.

In their science fiction delirium the American authors reveal the innermost secret of capitalism. With shameless boldness they bring to the surface what serious literature still tries to present in a veiled form.

The lackey of Wall Street in the livery of a science fiction writer first of all carries out the main order of his bosses: to persuade the reader

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

with all the means at his disposal of the invulnerability of the capitalist system. The wolf pack laws of capitalism, the so-called American Way of Life, are represented by the science fiction writer as inevitable for all people on earth, now and in the future. No matter to what planet the author carries his heroes he everywhere describes worlds constructed according to the American system. In the story "The Mysterious World," by E. Binder, the bandit Yorin, following the trade of his Chicago Colleagues, steals an interplanetary taxi and kidnaps the scientist Tom and the beautiful Della takes them to an unknown planet to look for the hidden pirate treasure. In the story by F. Russell called "The Secret of Mr. Wiesel"—spelling uncertain—there is an ecstatic description of the adventures of a spy from Mars.

The American science fantasy in its unbridled racial propaganda reaches heights which might have made Goebbels envious in his day. The author of the story "Lillies of Life," Mr. Jamieson, tries to impress on the reader that there is inequality on Venus and that there are inferior and superior races. With the revolting cynicism of a colonizer and slave owner he writes: "The natives of Venus are lazy, vicious and shameless. The native is a born liar and thief, incontinent of word and deed and dishonest in his actions; he shuns work, is indifferent to physical pain and is completely incapable of thought."

The dollar, the gun and the fist function equally well on the most distant planets, even those in the dust of the galaxy. Obeying the order of the Wall Street owners the writers glorify war as the basis of life and as the natural condition of the planet. In the story "Triple Fate," F. Leiber, the author, describes a cruel unending war between two nations who have swallowed all the rest. They are constantly goaded on by the thought that the war has to be continued, otherwise all previous sacrifices shall have been in vain. In the story "The Lights of Mars," G. Jales—spelling uncertain—in telling of the future sees war not only on Earth but also on Mars.

In order to fortify the propaganda of the power of the imperialist's war machine the "science" fantasts of America unrestrainedly threaten with the atomic bomb monster. R. Williams in his story "The Incredible Pebbles" describes a future factory of atom bombs into which, having made a mysterious leap through time, there wanders a moronic little boy with a slingshot. The little boy shoots atom bombs from his slingshot like pebbles. A hooligan with an atomic slingshot, isn't this the true symbol of modern imperialism?

In an endeavor to distract the mind of the reader from "harmful" thoughts on the origin of social evils American publishers release a series of horrifying tales with "other side"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

themes, as telepathy, reincarnation and failure of memory. The authors of these "scientific fantastic" works do everything that is required of them to pervert and stultify their readers. They foretell the total destruction of matter which is replaced by a concentration of thought energy. Throwing in a few mathematical theories the ignoramuses of the American magazines arrive at the belief of the existence of other worlds in the fourth dimension. Thus in the story by de Curci—spelling uncertain—"They are not people" there appears an immortal corpse out of a grave! In the story by Millard called "The Crystal Aggressors" the protagonists are bodiless creatures, "concentrated pure energy" which, by feeding on the nervous energy of people arouse in them emotions of fear, hatred and other evils.

In huge quantities there appear writing of literary fiends like Shaver, consisting of a mixture of mysticysm and sadism in the fascist style. In his novels Shaver constantly avers that all the troubles on Earth are caused by an incredibly ancient and incredibly learned super-race of Lemurs who once owned Earth but who have been gradually driven into very deep underground caves with all their machines. They operate from the bottom of these caves with special rays which inspire antisocial thoughts and actions and invite Man to war and self-destruction.

The authors of this arch-reactionary and screamingly shameless mess cannot, however, hide their fear of the future which has seized the entire capitalistic world. Capitalism which enslaves and exploits men would much prefer that its factories were worked by uncomplaining automatons. So in order to please their bosses the writers bring forth a whole army of robots who because of their special construction push live workers out of the factories. Characteristic in this respect is a story by E. Binder called "Adam Link Saves the World." Adam Link is a robot with a platinum sponge brain superior to a human brain. In a war with monsters that have arrived from Sirius he leads herds of bestial and merciless people—by the way the author has not forgotten to provide the robot Adam with a robot bride called Eve.

In del Rey's story "The Dream of Immortality" all humans die out, except that on a far away planet the robots survive and multiply.

In the contemporary bourgeois world the fruits of the creativeness of inventors and of scientists are turned into an object for speculation and robbery or into means of slavery and exploitation. Capitalism has chained inventors to its chariot by means of its patent laws and it forces scientists to do things directed against humanity. The hero of the modern science fiction story is usually not a scientist but a business man or a gangster who utilizes the fruits of other people's labors. Science, in the opinion of the American businessman is above all else a

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

means for enrichment, crime and tyranny.

Capitalism has no future. Time is working against it. Pessimism shows through all science fiction literature in spite of a show of bravado on the part of its authors. The reader is presented with scenes of a world reverting to wilderness and of destruction of civilization.

Revelations appearing in the delirium of this unbridled fantasy, poorly concealed by the label of "science," vividly betray the incurable disease of the capitalistic system. The hacks supplying the fantastic drivel feel this and try to present the doom of capitalism as that of the world. But all their endeavors are in vain; their nauseating evil ravings cannot fool the peoples of the world who believe in progress and the bright future of humanity.

BOOK REVIEW

"Slaves of Sleep," by L. Ron Hubbard. 206 pp. Chicago: Shasta Publishers. $3.00.

Once there was a timid, bookish young man named Jan Palmer, a typical fictional worm-about-to-turn. He owned one of those copper jars wherein King Solomon imprisoned the rebellious *Jann*. Remember "The Brass Bottle"? Anyway, a meddling acquaintance of Jan knocked the top off the jar, whereupon a resentful jinni named Zongri

SCIENCE FICTION BOOKS & BACK-DATED MAGS.

Fantastic and science-fiction books and back-dated magazines (Astounding, Unknown, etc.) bought and sold. Lowest prices. List free, of several thousand items. Current top-sellers:

The Books of Charles Fort, by Charles Fort. Contains complete contents of Lo, New Lands, Wild Talents, and Book of the Damned. Non-fiction, four full-length books in one huge volume. About visitants we've had from space, teleportation, etc., $5.00

33 Sardonics I Can't Forget, by Tiffany Thayer. Strange shorts gathered by the Secretary of the Fortean Society (see Fort above), $3.40

Strange Ports of Call, edited by August Derleth. See the enthusiastic review of this fine SF anthology in your Nov. '48 "Astounding," $3.75.

Space Cadet, by Robert Heinlein. Black out in 2075 under the Space Patrol's 7g test, travel to Venus and sell your viewpoint to its strange sea folk. Never published before anywhere, this is very, very swell adult SF, $2.50.

The Other Side of the Moon, edited by August Derleth. Just published anthology of SF tales by "Astounding's" favorite writers, $3.75.

Send check or Money-Order to:

WEREWOLF BOOKSHOP 1508-G Riverside Drive Verona, Pa.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

issued forth in a cloud of smoke and slew the acquaintance. Jan he didn't quite feel like slaying, so instead he cursed him with the curse of eternal wakefulness.

That meant that when Jan went to sleep in this world, he promptly awoke in another world—a world of human beings, all more or less the counterparts of those of this one, but a world ruled by the *Jann*. In fact, the world looked like the Barbary States in the days of Preble and Decatur, with a magical element superadded. Jan's own counterpart, into whose body he was so suddenly thrust, was a rough, tough maritime character called "Tiger," just then quartermaster on a *Jann* ship. However, Jan was immediately up to his neck in trouble in both worlds. For one thing, in our world he was charged with the murder of the meddling acquaintance; while in the dream-world he didn't know beans about being a rough, tough quartermaster on a *Jann* ship or any other, and hence— But you'll have to read the story yourself to find out how he made out.

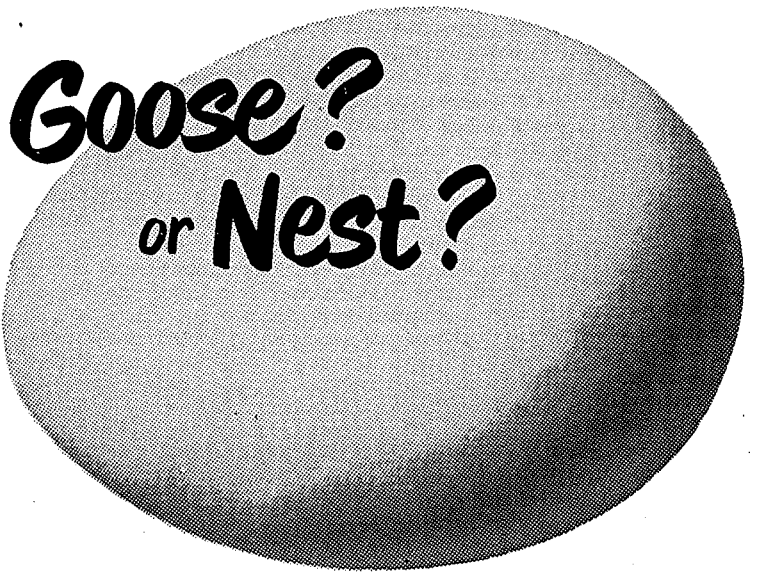
This is "Slaves of Sleep," the latest in the long procession of science-fiction and fantasy novels to be reprinted in book form in the last couple of years. It's undoubtedly a Trend, and perhaps in a few years more such books will have become as common or at least as regular in their appearance as the detective story became after World War I. "Slaves" is one of several light fantasy novels Hubbard had published in *Unknown* in its days of glory—a rattling good adventure-story well worth adding to your shelf of books of fantasy and science-fiction.

Hubbard's novels suffer from several faults obvious to a pro. They show the breakneck speed at which they were written. There are pieces of irrelevant description and dialogue that a more careful writer would have deleted. There are startling lapses of logic. There is bad dialogue in dialect, respelled phonetically. The stories often show an obvious derivation from other types of fiction, such as the low-cut Spanish-Main cloak-and-sworder. And the stories sometimes let the reader down at the end because, it would seem, the author got tired of writing and let the story drop without working out a proper finale.

But when all that is said, one of the "rules" of writing is that anything goes if the author can get away with it, and I think Hubbard does. The express-train speed of the action, the bounce, zest, and exhuberant humor carry the story along in spite of its defects. The final test, I think, is this: When I'm tired of tomes and want pure escapism with a liberal quota of belly-laughs for an evening, then, of all those *Unknown* novels, Hubbard's stand rereading the best of any. And "Slaves" is as good as any of the group. Therefore I can honestly recommend it.

L. Sprague de Camp

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



WHICH WILL YOU HAVE ?

For some reason, the goose egg stands for zero . . . nothing.

The nest egg, however, stands for a tidy sum of money, set aside for your own or your children's future.

It's unnecessary to ask which you'd prefer.

But it *is* necessary to ask *yourself* what you are doing to make sure you *don't* end up with a goose egg instead of a nest egg ten years from now.

The simple, easy, and obvious thing to do is to buy U. S. Savings Bonds. Buy them regularly, automatically, on a plan that pays for them out of the month-to-month income you make today.

Millions of Americans have adopted this painless way to save up a nest egg for the needs and wants of the future.

In 10 years they get back $40 for every $30 invested in U. S. Savings Bonds—bonds as safe and solid as the Statue of Liberty.

There's a special Savings Bond Plan for *you*. Ask your employer or banker about it today . . . *and get started now.*

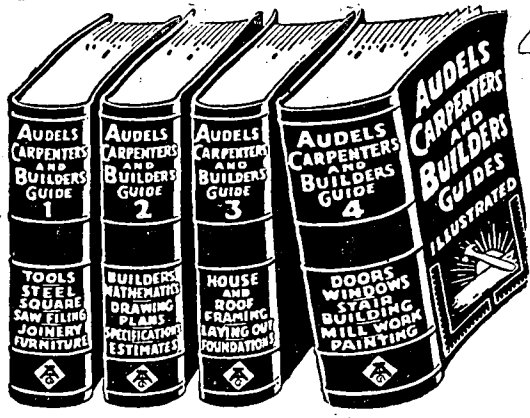
You'll soon realize it's one of the most important and comforting things you ever did!

Automatic saving is sure saving – U.S. Savings Bonds

Contributed by this magazine in co-operation with the Magazine Publishers of America as a public service.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

AUDELS Carpenters and Builders Guides



4 vols. $6

Inside Trade Information for Carpenters, Builders, Joiners, Building Mechanics and all Woodworkers. These Guides give you the short-cut instructions that you want—including new methods, ideas, solutions, plans, systems and money saving suggestions. An easy progressive course for the apprentice and student. A practical daily helper and Quick Reference for the master worker. Carpenters everywhere are using these Guides as a Helping Hand to Easier Work, Better Work and Better Pay. To get this assistance for yourself, simply fill in and mail FREE COUPON below.

Inside Trade Information On:

How to use the steel square—How to file and set saws—How to build furniture—How to use a mitre box—How to use the chalk line—How to use rules and scales—How to make joints—Carpenters arithmetic—Solving mensuration problems—Estimating strength of timbers—How to set girders and sills—How to frame houses and roofs—How to estimate costs—How to build houses, barns, garages, bungalows, etc.—How to read and draw plans—Drawing up specifications—How to excavate—How to use settings 12, 13 and 17 on the steel square—How to build hoists and scaffolds—skylights—How to build stairs—How to put on interior trim—How to hang doors—How to lath—lay floors—How to paint.

AUDEL, Publishers, 49 W. 23rd St., New York 10, N. Y.

Mail Audels Carpenters and Builders Guides, 4 vols., on 7 days' free trial. If OK I will remit $1 in 7 days and $1 monthly until $6 is paid. —Otherwise I will return them. No obligation unless I am satisfied.

Name_____

Address_____

Occupation_____

Employed by_____ JACK

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED